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Difficulties of the Old Doctor

THESE swift times are pretty hard on the aging in every walk of life, but to none comes the stress as it does to the old-fashioned doctor. Always this guardian of the people's health has had his troubles and his competition to meet. Never has there been the day when he could look upon his practice as does the farmer on his acres, and feel that he holds its ownership secure. Previous to this, however, he has been contending with his equals, and the competition has been one in which he had a fair chance to hold his own. It is different now.

Comes the traveling doctor and the advertising doctor who are specially skilled in the art of getting on the good side of folks and wheedling their money away; the quack is also nowadays very often a really skilled practician, well up in latest and improved methods, up to date, far better versed in his profession than many a regular.

Comes the state law, which tells the doctor he has to remain in his own state or quit practice; for, the old doctor can not hope to pass the present-day examining boards. No matter whether his wife sickens and climate alone can save her, or his old town dies out and others rise where doctors are needed; he must stay where he is or give up his profession.

But the competition that cuts closest is that from his own fellows. The surgeon cuts huge slices from his income; the specialist and the hospital attract all those of his patients that are at all able to pay; and the modern doctors emerging from the splendidly equipped schools of today are so far ahead of him in professional acquirements that the old practitioner is a back number.

This last is the principal cause of the old doctor's difficulties. He has been guessing his way through life. Guessing what is the matter with the patient; guessing what may cure him; guessing how much calomel, quinine, and morphine he is pouring out into powders; guessing which of the half dozen drugs given has, maybe, helped; guessing that the old stuff in his old bottles may still possess strength enough; guessing that the patient is better and that maybe what medicine he gave did the good; guessing, guessing. And then, in the end, guessing that enough cash will come in to meet the bills and that he will collect enough to pay the taxes.

He is a great guesser, is this good, old-fashioned kind-hearted doctor; but, what does he *know?* Aye, there's the rub!

Comes the new doctor, fresh from college, flushed with his triumph at the examination for license. He is well versed in the new

medical science that is based upon science—not upon mere guessing. The doctor of the old school may guess within half a degree what is the patient's temperature, but the youngster uses his thermometer, and knows exactly. Grandpa guesses that there is a touch of pneumonia here, or maybe a sketch of typhoid, or perhaps a lurking malaria. The boy examines and finds no pneumonic râles; the urine shows no malarial pigment, the blood, no plasmodia; the feces display a brood of amebas; and so the cause of the disease is demonstrated with mathematic certainty.

Diphtheria attacks are not left to kindly nature to thwart, but are scotched with antitoxin; and the rest of the family are protected thereby. Those who are exposed to typhoid infection receive the prophylactic inoculation, and the malady does not run through the family or through the entire community. No case of sickness which is in any way obscure is guessed at, but the resources of the clinical laboratory are utilized until certainty of diagnosis is secured.

For all that, I do not see why the old doctor should give up and efface himself merely because he labors under difficulties. What are difficulties but things to be met and conquered? One grown gray in service has many advantages which the others lack. He has experience; he knows the constitution, the habits, the tendencies, the histories of his patients; and these things furnish much upon which to base a conclusion or a diagnosis. He knows the nature of the locality and the maladies common to it. The while the younger man is puzzling with his reagents and microscope, the elder one may recognize that there has been an illicit supply of whisky brought in.

The older man can sit down and realize wherein are his own deficiencies, and take steps to amend them. He may read newer books than the quarter-century-old texts in his library since his student-days. He may secure late and scientific journals and read them. He has a knowledge of drugs that scarcely is being taught in the colleges nowadays, and he can improve his stock by better and surer remedies. He need not run after every fad and novelty, but he can trade his effete powders and decomposed fluids for remedies that may be depended upon to do what they are expected to do. There are many things he can do—if he will.

I have little use for the man who is in difficulties and sits down for competitors to run over him. Such men ought to be run over. They cumber the earth and are in the way, hindering the progress of live men. I wish I had a real sharp stick with which I could poke them into exerting themselves.

There is no room in this busy world of today for incompetence. The fittest must survive—and, if you are the unfit, why let sick people suffer that you may make a living.

Be the fittest.

How can we best show our patriotism in this time of international anxiety? While thoughtful for and anxious to help those in distress in Europe, let us remember that our first duty is to those at home—to keep the wheels of American industry turning and to keep American labor employed. Never was our duty more clear to buy generously of American-made goods; to invest in American securities and American lands; and to clothe ourselves with American-grown cotton and wool. Don't hoard your money. Buy now—today!

THE TRUE INWARDNESS OF MEDICAL-CHARITY ABUSE

Two general forms of medical charity, so called, prevail among us, namely, the dispensary clinic and the hospital ward. Needless to say, there is no intention on our part to dispute or belittle the tremendous boon which both of these institutions are to the poor and unfortunate. They put within their reach a benefit which otherwise they could not hope to attain except through the occasional generosity of an individual practitioner. That, however, is not the question. The point for inquiry is, how far may these institutions be regarded as genuine medical charities, that is, the free, unrequited bestowment of medical service, for the sheer love of humanity, such as an individual will make.

The mere fact that these are organized institutions is a *prima facie* indication that they are—and ought to be—something far different. For, one of the prime purposes of an organized charity, so called, is, to eliminate the pauper element as far as possible, and so to adjust the economic relations of those who minister and those who are ministered to, that each as far as possible may give and take.

In the case of the dispensary clinic, this reciprocal feature is almost wholly based upon the clinical and educative value of the patient to the medical school to which the clinic is tributary, and to whose evolution it has contributed to a very large extent. Medical schools, in their turn, are tributary to the renown, and thereby to the income, of the members of the faculty, who, in the vast majority of instances, give their teaching services to the college for nothing, sheerly in

consideration of the returns they may get in the way of prestige and advertisement.

In the case of the hospital-ward, the same things are substantially true. There are, to be sure, very few out and out charity hospitals outside of the county and municipal institutions. Even the ward patients in most hospitals are expected (and rightly so) to pay what they can afford for their accommodations. But, so far as their medical attendance is concerned, they requite it by their educative and advertising value to the members of the staff. And, if a college is tributary to the fame and pocketbook of the faculty, to how much greater a degree is this true of a hospital and its staff.

The fact of the matter is, charity hospitals are rarely the creation of medical men at all, but either of some philanthropic organization or of the state; and to suppose that the break-neck rush of physicians and surgeons to get on the staff of such institutions is the expression of an overweening enthusiasm for humanity is simply absurd. These institutions feed the experience and fame, and so indirectly the purse, of the specialist who is fortunate enough to own a membership; that is the plain truth of the matter. Nor is there any call for apology that it should be so. In itself, there is nothing dishonorable or out of the way in the situation. It establishes a more or less equitable *quid pro quo* between the indigent patient and the doctor, and is thus far better, from a sociological standpoint, than pure charity.

But, if it be overdone, what then? Who suffers? Not the patient, even from a moral viewpoint; for he feels, and rightly feels, that he is requiting the service he receives. Not the specialist, for, up to a certain point, the more of such work he does, the more fame, experience, and income he acquires; and he can easily shut it off when it passes that point.

It is the general practitioner, who has no hospital connection, whose private practice is robbed to just the extent that the institutional specialist's clinic is fed by those who are able to pay in money for their service, and who experiences no compensating gain for this deprivation—he it is that suffers from the "abuse" of medical charity and is pauperized by the habit.

Who is to blame? The public may well be left out of this question. Under the circumstances, one can scarcely blame the public for availing itself of a more or less ostensible reciprocal arrangement in which it is cordially invited to participate; and, in any case, the public can scarcely be expected to look out for the welfare of the medical man.

The fault, then, must be divided between the institutional specialist—with whom there is a constant temptation to play the game for all it is worth, educationally, socially, and financially—and the general practitioner, who foolishly helps the evil along by unnecessarily feeding the strongly tempted weakness of the specialist.

And the remedy? In this aspect of the matter, it is greatly to be feared that one must count out both the public and the specialist. Self-interest, even in the medical profession, is a powerful element to reckon with, and, as a rule, must be opposed by self-interest.

The remedy lies with the general practitioner himself. He must learn to keep for himself what he has been so recklessly and indiscriminately sending to the institutional specialist. In short, he must disabuse himself of the fetish of unnecessary specialism, which has dominated him for so long.

We understand that an organized movement already is on foot for the furtherance of such a purpose; to investigate and readjust the economic relations of the physician to the community and to the institution, and to discuss the entire subject of ethics in its relations to modern practice.

If, as we understand, the objects of this organization are wholly constructive, and in no sense destructive, we are of opinion that it will fill a great need. We also believe that the time is ripe for the effective carrying out of these objects. However, so far as this particular question of charity abuse is concerned, we venture the admonition that the elements of abuse will be found within the profession itself rather than with the public at large.

THE HARRISON BILL—AT LAST!

The members of the conference committee, appointed by the Senate and the House of Representatives, have agreed upon a final form for the Harrison antinarcotic bill (H. R. 6282). The points of difference between the Senate and House bills were adjusted by compromise. As it finally stands, all physicians, whether they dispense or prescribe, will be required to register and take out licenses from the United States Government. For this license a fee of $1.00 will be charged. Also, physicians will be required to keep records of narcotic drugs dispensed, *providing they are not personally in attendance upon the patient to whom the medicine is to be*

given. In other words, records must be carefully kept by every physician, dentist or veterinarian of all narcotics sent to patients by mail or by messenger.

While this narcotic law is not ideal, and probably will not be entirely satisfactory either to physician or druggist, it is a laudable effort to crush out a great evil, and as such we hope that it will be warmly supported by every practitioner and pharmacist. The fight over it has been a warm one, and at times acrimonious, but the results seem to justify all our efforts. Now let doctors and druggists get together, stop their scrapping, and see that the law is enforced.

The law goes into effect next March. Full details will appear in later issues of this journal.

You may be sure that some men, even among those who have chosen the task of pruning their fellow creatures, grow more and more thoughtful and truly compassionate in the midst of their cruel experience. They become less nervous, but more sympathetic. They have a truer sensibility for others' pain, the more they study pain and disease in the light of science.

—Oliver Wendell Holmes.

THOROUGHNESS

I have already spoken of the thoroughgoing way in which the German nation has prosecuted its own commercial interests, appealing to the patriotic sentiment of every individual citizen to contribute his share toward the national prosperity and to promote, even though it be at a sacrifice, the advancement of German supremacy.

This same thoroughness characterizes the German habit of thought and rule of conduct in every phase of life and industry and is well worthy of emulation by us, here, in the United States. Indeed, if I should be asked to say what quality, in my opinion, was peculiarly distinctive of the German character, I should say that it is the quality of thoroughness. Then if, on the other hand, I should be asked what quality, in my judgment, is most needed in the American makeup, I unhesitatingly should reply, This same quality of thoroughness.

Brilliance we have, without doubt; adaptiveness, beyond all other peoples; skill and daring and capacity for achievement, in amazing degree; but we lack, as a race and as individuals, that patient, painstaking, scrupulous regard for thoroughness, that always-preparedness which, above all else, marks the German character.

I am thinking, just now, especially of medical men and medical work, of course. When one considers the achievements, and the resources, and the facilities, and the possibilities which the medical science of this country has put at the disposal of the physician; all the incentives to thoroughness and the means to be thorough; and then looks around him and observes on every hand the evidences in medical practice of not merely *un*thoroughness, but of positive carelessness and slovenliness and happy-go-lucky-ness, it really makes one disheartened, if not pessimistic.

In spite of the many agencies now available for accurate diagnosis, for example, how many practitioners of medicine, yes, or even institutions of medicine, are availing themselves of them and conscientiously utilizing them? How many, rather, are still contenting themselves with the same old-fashioned, inadequate methods of their grandfathers, as though they did not live in the twentieth century at all? Nay, they are not nearly so thorough as their grandfathers were, for they accept the innovations of modern diagnostics without putting them into practice. At all events, in the face of all the means of thoroughness, they are content to be superficial and slipshod.

Only last week a capable and progressive young physician, from a large and (in most respects) wideawake city of the West, called at this office and told us that, with but one or two exceptions, not a hospital in his city was properly equipped with adequate facilities for doing even the most ordinary kind of clinical diagnostic work.

Indeed, this doctor's report upon and description of the conditions named showed a paucity of diagnostic preparedness and a carelessness of diagnostic detail that would be ludicrous if it were not so serious. He told how at one time he was assisting at a surgical operation, performed in one of the leading hospitals of that city by one of the prominent surgeons there, when pus was seen to issue from the wound. "That looks like pus," remarked the surgeon. "It certainly does;" replied our young friend; "how is the leukocytosis?" "I don't know," said the surgeon, "no blood-count was made."

What sort of thoroughness is this, in the twentieth century, in a supposedly up to date American city? Yet, I fear it is but typical of *average* conditions. The medical profession is *not*—there is no use blinking the truth—it is *not* living up to the possibilities and obligations which the achievements of its own scientific workers have laid upon it.

The average American practitioner is not doing as thorough work as he might. It is not that he lacks the skill, or the means, or even, in a certain way, the will. It is just that habit of making shortcuts and of getting there quickly that is the curse of the American temperament. What we need, more than anything else, is, to cultivate the habit of thoroughness which characterizes our German neighbor.

The fowler's shot resounds through pleasant air,
The maples have put on their red and gold,
The purple haze envelops wood and wold
And makes the homeliest things look soft and fair.
The corn stands in the shock for winter's food,
The cows graze lazily along the stream,
The distant mountains now much nearer seem
Than when the summer heats did o'er them brood.
The growing colt frisks gayly through the field,
Nor thinks of toil in store for him and me.
A sluggish feeling calms our energy,
And makes the mind to dreamy fancies yield.
Over the well-won trophied autumn's shield
The Indian summer spreads its tapestry.

—Edward S. Creamer.

FEDERAL LICENSURE: HOW TO BRING IT ABOUT

For years, physicians in all parts of the country have been writing to us and to other medical editors about the difficulties involved in making a change of residence from one state to another. As the laws of our country now stand, the doctor who desires to remove to another state, on account of failing health, to educate his children, or for any other reason, is required to take a severe and exhaustive examination in the different medical branches.

The average physician knows very well that he cannot pass these examinations without some months' preparation, nor can he understand why it is necessary that he should do so. If he is qualified to practice medicine in one state, he should be equally qualified to practice in another. If he can satisfactorily serve the sick in Massachusetts, he ought to be able to do the same in Missouri or California.

"Is there any justice in demanding that I shall give up my life work simply because I am obliged to remove to another state?" This is a question which is constantly bobbing up. Practically every fair-minded man recognizes the injustice which is being done to thousands of practitioners under our present medical-practice laws.

Is there no remedy? Until recently, we are free to confess, we have heard of none. The plans for reciprocity inaugurated by the state boards have proven utterly inadequate. Unfortunately, those portions of our country which seem most desirable for men and women of advancing years or in feeble health are most anxious to exclude competing physicians, and in these sections reciprocity is not popular. Nevertheless, there are a few men in this country who do believe that some constitutional method of reciprocity between the licensing boards of different states is a possibility.

It is rather significant that within a month or two two journals have submitted plans for federal medical licensure. One of these, *The Medical Council*, advocates the establishment of a volunteer sanitary service as a department of the United States Public Health Service. Appointment to this service shall be by examination only, and every physician who succeeds in passing the examination successfully will become a "federal sanitary inspector," and, as such, a medical officer of the United States Government.

Most of our states provide that medical officers of the Army, Navy, and Public Health Service shall be admitted to registration for practice without examination. Therefore, it is believed that every person who succeeded in passing the federal examination could legally move from one state to the other and continue as a practitioner without taking the local examination.

The other plan was suggested by the editor of *The Journal of the American Medical Association*. It is similar to the preceding one, but it makes the basis of licensure entrance into the Medical Reserve Corps of the United States Army. Officers of this service, under most state laws, are admitted to practice without state examination. This plan is closely analogous to that presented by Doctor Blair of *The Medical Council*.

Whether it is possible to work out either of these plans in such a way as to make them acceptable to the federal government and at the same time acceptable to the several states, only free and full discussion can determine. Either plan seems to us a good one, and we can see no reason why both should not be workable.

The greatest objection, however, is likely to come from the examining boards of a number of states which have heretofore frankly been anxious to prevent an influx of practitioners. Take California, for instance: This state does not want any more "one-lung" doctors. Indeed, here physicians believe there are too many medical practitioners in California already, and it may be doubted

whether they would consent to surrender the police-power of the state as regards medical licensure under any condition whatever.

In the final analysis, the successful working of this plan, either in the form presented by Doctor Blair or Doctor Simmons, will depend upon the assent of the various states. What their attitude will be, we have as yet no means of knowing.

We are intensely interested in this suggestion and hope that it will be freely discussed from every angle. CLINICAL MEDICINE is anxious to supplement every reasonable effort toward promoting reciprocity of licensure, or of federal licensure, if such can be secured. We sincerely hope that everyone of our readers will give this subject earnest consideration, and we shall be glad to open our columns to anyone who may desire to discuss it.

What do *you* think, doctor, of the plans proposed? Can you improve upon them? Can you see any reason why they can not be made effective? And which one is best?

If you cannot secure your accustomed foreign-made or foreign-grown remedies, why not take this occasion to study American chemicals and American medicinal plants and their derivatives? Our Eclectic brethren have sounded the note. Can we not all join in the swelling chorus and make it a hymn of praise and salvation?

A SLOGAN FOR AMERICANS

We must "hand it to the Germans," as the boy in the street says, for at least one thing, and that is the vigorous, persistent way in which they play up their patriotic spirit in the commercial and economic phases of their national life; which, after all, are the channels through which patriotism is able to do most genuine good for one's country.

We Americans have been in the habit of flattering ourselves that we were the most patriotic people on earth, but, as we begin to know, through the publicity given it by the present war, the inside life of Germany, we declare it makes us Americans look like a lot of cheap shouters and noisemongers, who make very little serious effort and still less real sacrifice for the welfare of our nation.

Forbes, in *The Chicago American*, cites a sort of business decalog which, he asserts, has been circulating through Germany, broadcast, for several years, distributed to every merchant, hanging in every home, and graven into every heart in the Fatherland. This code consists of ten trade commandments, the gist of which is summed up, at the end, into three or four cardinal principles of industrial patriotism, as follows:

Promote German Industry.

Keep Employed German Labor.

Make Use of German Capital.

Distribute Your German Money at Home.

This is but illustrative of the tireless, wholehearted way in which the German nation "boosts its own game"; and it is this spirit and method that have built a commercial empire out of a few straggling states within the comparatively short period of half a century.

Well, presumably the lesson has come home to us; and it has been driven home at a time and under circumstances which, of all times and circumstances, offer the greatest opportunity to profit by it. Markets of the world that have hitherto been supplied by the now warring nations stand begging for goods. Our own people, deprived of the conveniences, even of the necessities, of life which they were accustomed to receive from Europe, are looking eagerly for other sources of supply. We are enormous consumers as well as enormous producers.

Plainly, the patriotic duty of every citizen of this country is, to take a leaf out of Germany's book and boost the game of the United States.

To quote the words of George Pope, president of the National Association of American Manufacturers:

"In the love of country, repeat, and continually repeat, not to yourselves alone but to the world, 'Made in the United States,' until all the world has heard the slogan; and then repeat it until the world shall never forget." And in the very next breath Mr. Pope pertinently reminds us that "all the world includes ourselves, so take this slogan home and increase our home markets by consuming more articles of home production."

Let no man feel that his individual purchases do not matter. The nation is composed of individuals. Not only in his home, as an ordinary citizen, but in his professional relations, the doctor is intimately and vitally concerned in this movement.

Of all the classes of goods to be influenced by the European war, drugs and surgical instruments are among the most affected. Some of these supplies, of course, we have hitherto been unable, or have thought that we were unable, to produce in this country as advantageously as they could be produced in Germany and the other European countries. But it must be admitted that a great deal of

our dependence upon the other side for medicines and instruments has been owing to a foolish fetish of the "Made in Germany" label, which might just as well have been a wholesome enthusiasm for the "Made in the United States" sentiment.

Do not misunderstand us. We advise no man to discontinue the use of foreign-made goods when those goods are better than what we can produce here. If you need German chemicals to cure your patients, use German chemicals. There are good ones advertised in this very number. We need not conspire against the trade of brave little Holland, or sunny Italy, or any other country, in seeking to keep the wheels turning in our own factories. It is the pressing need for prosperity at home, in my state and your state, my town and your town, that we have in mind. Today the great problem for America and Americans is how best to help our own industries, crippled by a foreign war

NOW, if ever, is the time for every individual citizen of the land to rally to the banner of American prosperity. Let us coin our high-sounding patriotism into currency of the realm, and cash it in. We have been told, over and over again, by some of our friends across the water, and in not too complimentary fashion, that the United States stood for the age and the spirit of commercialism.

All right; we'll accept the characterization. We see what the traditions and the patriotism of the old world have led to. Now let us demonstrate to ourselves and to the world that it is possible, not only to be commercial and patriotic at the same time, but to make our commercialism the vehicle for the exercise of our patriotism.

Doctor, every man Jack of you, the game is up to you. On you, individually, lies the responsibility of making out of the present crisis either a slough of depression and industrial paralysis or a highwater peak of success and prosperity. Do not expect to be swept to prosperity on some overwhelming wave of general sentiment. You must do your own personal part to bring this end about.

Take the industrial decalog and apply it consistently to your own individual life and conduct. Promote American industry; employ American labor; use American capital; distribute American money at home. Buy American food and clothes, American drugs, American supplies. Our harvests are abundant; our factories and our workers are ready and eager for the work; our finances are sound. "It is we," cried Cicero to the Roman senate in a national crisis, "we—the consuls—who are wanting." Let us be found wanting no longer.

I let Nature work, supposing her to be sufficiently armed with teeth and claws to defend herself from the assaults of infirmity, and to uphold that contexture, the dissolution of which she flies and abhors. I am afraid, lest, instead of assisting her when close grappled and struggling with disease, I should assist her adversary, and burden her still more with work to do.

—Montaigne.

ANOTHER SIDE OF THE FEE-DIVISION QUESTION

That there are two sides to the question of fee division, and that the "other side" is not confined altogether to the ranks of the irregulars and the insurgents, is evidenced by the recent publication of a pamphlet on the subject under the joint auspices of the Grant County Medical Society of Indiana and the Eleventh Indiana Councilor District Medical Association.

This little brochure embodies a paper on "Fee Division" read by Dr. A. A. Hamilton, of Marion, Indiana, at the January, 1914, meeting of the Grant County Medical Society; and, being printed and distributed with the unanimous sanction and endorsement of that body and of the Councilor District Association, it may be regarded as the official utterance of organized medicine in that part of that state.

Doctor Hamilton opens his discussion of the subject with a short series of decidedly pertinent questions, two of which, as it seems to us, bite into his side of the controversy with most incisive effect.

One of these questions formulated asks, "Against whom is this warfare being directed?" the second inquires, "Who is doing the complaining?" Doctor Hamilton's replies, while not quite so terse, are equally pointed and direct.

It is "a battle in which the few are arrayed against the many," the Doctor declares, "because the warfare is directed against a large body of special workers, as well as against all generalists, in a concerted effort to force both to accede to the demands of these self-appointed leaders." In short, he avers that the campaign in denunciation of fee division is waged altogether against the great mass of the profession, and in opposition to the consensus of opinion, and that the complainant is the exceptional specialist who is greedy to receive and retain the entire emolument in every operative case.

We have no desire to enter into the controversy ourselves; far less do we wish to appear as unqualifiedly endorsing the practice of fee splitting. Nevertheless, it is worth while to bear in mind that even to this question there are two reasonable sides; and that the advocacy of fee division is not, as we have said, restricted to the outsider, but is to be found within the ranks of organized medicine itself. Indeed, we are of opinion that it is much more prevalent than is commonly realized; but, of course, it does not find its way into the pages of the state journals as does the hostile attitude.

Moreover, we will go with the author of this little pamphlet to the extent of expressing our conviction, in a general way, that whatever of mischief has entered into the situation has its cause in the exaggerated status and the domineering attitude of the surgeon, who has come to look upon the practitioner (and the practitioner has almost come to look upon himself) as a mere caterer to his specialty. We are persuaded that it is out of this perverted state of affairs that all the contradictions of surgical consultation, including the evils of fee splitting, have grown.

Any movement that seeks, honestly and sincerely, a genuine remedy for the evil, will have to look further and deeper than to this or that surface aspect of the matter. It will have to aim at a rehabilitation of the proper relationship between the general practitioner and the surgeon, and restore the former to his rightful and logical place; to observe within the profession, and let it be known to the public, the supremacy of the physician in every case that he undertakes and the tributary part played by the expert surgeon.

The expert surgeon stands, in relation to a case into which he is called by the physician, in precisely the same position as does a special pleader toward a suit into which he is called by a lawyer; and there is no reason why the doctor should not follow the course followed by the lawyer under such circumstances.

The lawyer plays his case to win. If, in order to win, it be necessary to call in a special pleader, he calls him in, making the best terms he can with him, and charging the expert's fee as a part of his own bill. There is no talk of fee splitting. There is no need for such a thing. The case is the attorney's, not that of the expert. It is to the interest of both himself and his client to win it. He will get the best expert assistance he and his client can afford—often, indeed, sacrificing a little of his own hard-earned fee to secure the best. But he never relinquishes his own direct responsibility to the client or his own mastery of the case.

It seems to us that a similar mode of procedure might, and indeed should, obtain in the matter of the physician and the expert surgeon.

But this never can, and it never will, obtain as long as the surgeon continues to dominate the situation as he has during the past twenty years. Happily, however, there are unmistakable signs that the general practitioner is beginning to reassert himself, determined to come into his own again. To us, this is the most notable significance of the pamphlet issued by the Indiana organizations—even greater than the evidence which it furnishes of another side to this question of fee division, although that in itself is well worthy of consideration.

Not in recent years has there been such a triumph for the cause for which we are fighting—for a wider recognition of the advantages of the plant principles as compared with the galenic plant preparations—as in the demonstration of the therapeutic possibilities of emetine. This alkaloid is to ipecac what quinine is to cinchona bark. We now know that it will do things which we never dreamed ipecac could do. Are you studying it?

THE CORRECTION OF FLAT FOOT

As regards flat foot, it is highly important for us to learn, not simply how to cure flat foot already fully developed (a condition readily recognized by means of starch-iodine or printers'-ink impressions upon paper), but to be sure to recognize the very first beginnings of this lesion, in order correctly to diagnose in time various static troubles resulting from altered foot conformation, but which very frequently express themselves primarily in distant parts of the body, especially in the knee, hip, and sacrum.

Lorenz says correctly: Many an offhandedly diagnosed gout of the ankles (the pet diagnosis of doctors), many an alleged ischias and meralgia might promptly and permanently be cured—without subjecting the victim to dietetic torturing—if the idea were to become more generally accepted that not merely high-grade flat foot (such as already betrays itself in the shoe worn) is a proper subject of treatment, but that also the weak, yielding, insufficient foot, that flattens out under the weight of the body, constitutes an unceasing source of pain and is a thankful object of orthopedic interference and calls for early attention.

Particularly important is the timely recognition of pes planus adolescentium, which oc-

curs in the same period of puberty as genu valgum and coxa vara, and which only too often is treated for months as rheumatism, until irreparable fixation of the bone deformities has resulted.

If we inquire, the author continues, as to the causes of the now so frequently observed trouble of flat foot, we are compelled to accuse —before and above everything else—the incorrect shape of our present-day shoes. If we draw the outline of the sole of such a shoe over the color impression of the foot, it generally will be seen that the incorrect cut of the anterior inner sole edge forces the fore part of the foot into abduction. To be of correct form, however, the sole of the shoe should be shaped with reference to the adduction of the fore part of the foot. That it is a fact that the American shoe-last conforms most nearly to this norm, Doctor Lorenz freely acknowledges.

THE AMERICAN SANITARIUM'S OPPORTUNITY

One of the results of the European war will be, of course, to close the European spas and sanatoriums to American visitors, and the great army of invalids who make yearly pilgrimage to the other side will be thrown upon the alternative of either staying in their homes or patronizing American institutions. Doubtless there will be a large proportion who will elect to stay at home, these representing the class of people (principally women) who go to the European spas, not because they are sick, but because it is the fashionable thing to do. On the other hand, there will be another percentage, perhaps equally large, of potential candidates for the sanitariums of this country.

From which it would seem that the sanitariums of our country will share in the general opportunity for a boom in business which is presented by the war conditions in Europe, and to which we have already referred in another editorial—the question being, of course, whether the American institutions are capable of rising to the situation.

On the whole, the spa and sanitarium business, with a few notable exceptions, has not been a howling success in the United States. Perhaps in times past there have been ample and plausible reasons for this.

We have not, as a nation, been much given to coddling ourselves and idling in health-resorts. We did not have the knack of loafing gracefully or graciously. And, after all, as I have intimated, a great many of the visitors at the European spas have been the idle rich or the still idler social rank—a class that is very limited in this country, thank heaven.

However, in these days the function of the sanitarium is quite changed. The benefits of institutional treatment are well recognized and thoroughly promulgated among those who are genuinely sick, and there is a growing disposition with this class of invalids to avail themselves of it. Still, for some reason or other, the American sanitarium does not seem to meet the situation as it should. Those who can afford it, even of this genuine invalid class, persist in going to Europe; those who cannot afford it forego, in a great many instances, the institutional treatment which they, nevertheless, feel would benefit them. There must be some reason for this, some inherent inadequacy in the American sanitarium system, as a whole, which stands in the way of its success.

I am convinced that one reason, at all events, and that a powerful reason, is to be found in the lack of rigorous regimen in the American sanitariums. As a rule, these places are altogether too lax and easygoing. When patients go to Baden or Aix-le-Bains or Carlsbad, they are put and kept under a rigid course of living, laid down by the medical superintendent and enforced by the entire executive management. Their diet, their exercise, their time of rising and retiring, their environment, their participation in the special therapeutic features of the place, the baths, the waters, and all the rest are all rigidly prescribed for them by the medical staff, and they are held to them with almost military discipline.

This, indeed, is the proper system for a sanitarium or a spa to pursue; and, moreover, it is what the patients expect and appreciate. Under such a regimen, they feel that they are getting something for their money and are made to realize the advantage of systematic orderliness over their own slipshod, irregular modes of living.

Such a government constitutes, in fact, not only from the medical standpoint, but in the patient's mind, the prime *raison-d-être* of institutional treatment. These invalids wish to be put under iron rule and forced to do the things which, of their own pampered wills, they would not do. Even in their relations with their own physicians, all patients appreciate this sort of medical authority. No sick person has any real respect for the doctor who weakly lets him do as he pleases. The European spas understand this truth and apply it in their rigorously enforced regimen.

Contrast this severe, quasi-military system with the complacent, easygoing course followed by the great majority of American sanitariums, the inmates of which, as a matter of fact, are regarded and treated as *guests* rather than as *patients*. The prime desideratum seems to be the comfort and entertainment of the patient, rather than his health. The important thing is that he be pleased, not that he be cured. That, indeed, is the phase of the matter upon which most of our institutions base their exploitation; they dwell upon the luxuries to be had in the living-quarters and harp on the facilities for amusement and entertainment. They are, in short, not sanitariums at all, but hotels; the medical officer being a mere figurehead, who holds his position for the sake of a nominal concession to the fitness of things.

This, I am satisfied, is one big reason why the spa and the sanitarium system in this country has failed of the influence and success which it has attained in Europe. I repeat, I believe there is a great opportunity now at the doors of the American sanitariums, in common with all other home enterprises. Nevertheless, if they are to profit by Europe's misfortune in this direction, they must rise to the opportunity and show themselves equal to the demands of the times.

The day has gone by when a health-resort was a place for lackadaisical women to dance and play cards and gossip at while they "drank the waters"; the medical officer a sort of professional lackey, to dance obsequious attendance upon milady and complacently order her the things she liked. The latter-day institution must fulfill its modern function; its medical officer must be supreme and his regimen strict and inflexible. Only so can it command the respect and patronage of the American profession and public. Only by taking this leaf out of Europe's book can it profit by Europe's example at this time of the disability of those peoples.

War is one of the greatest plagues that can afflict humanity. It destroys religion; it destroys states; it destroys families.—Martin Luther.

THE USE OF APPETIZERS

One of the most common requests put to the doctor is for something to arouse the appetite. It is feared that nothing is a more common practice than for the practician to concoct some mixture of bitters, acids, and possibly digestants, and give that to his patient without much questioning—if the applicant wants an appetizer, he, sure, must need one.

To tell the truth, one can not study the conditions displayed by these patients very long, without asking himself whether any person ever really needs an appetizer.

The need for food is so imperative that one merely has to wait long enough, and the patient will be ready to eat anything that possibly may sustain life. The writer has seen men, who ordinarily would disdain a steak not done to their taste, greedily eat condemned ships' biscuit studded with black-headed worms. In Africa he has partaken of parched locusts, with relish. He has, in other words, witnessed and experienced real hunger.

Still, we see men who really need more food, are undernourished, and, yet, revolt at the thought of eating.

Why, then do not these people have appetite?

When the blood furnished to the stomach and to the gustatory nerves is impregnated with fecal by-products there is not likely to be much appetite. So very frequently is this the case that it is good practice to begin, in every instance where a lack of appetite is mentioned, by looking after the condition of the bowels. Give the traditional course of calomel or podophyllotoxin and follow with a saline laxative, and in four cases out of five your work will have been completed. Sometimes it is well to add a little bile or its active principles. But in which cases? The writer's rule is, to add this whenever the stools are too light in color, the bile being lacking. True, this may be because there is a stoppage, an obstruction in the biliary passages; but then we have actual jaundice. Bile may not be truly antiseptic; yet, its presence in the alimentary canal seems to inhibit some microbic operations, and its daministration is certain to be followed by improvement if it is given when indicated.

The symptoms formerly attributed to sluggishness of the liver are now known to be really due to fecal accumulation, decomposition and reabsorption; but, as the treatment by cholagogs rids the bowel of its accumulations, little harm was done by the error in the theoretical pathology. The coating disappeared from the tongue, the bad taste left the mouth, the muddy complexion and yellow conjunctivæ cleared up, and depression and melancholy were replaced by a sense of lightness and fitness, and the gloomy face was lit up with cheerfulness. The "liver" certainly was relieved.

Sometimes the stomach really does need a boost. A granule of quassin allowed to come in contact with the gustatory nerve-terminals, while in solution, gives exactly the needed fillip—much better than the tremendous potency inherent in strychnine. Add a little aid to digestion—pepsin-and-acid, diastase, papayotin, or one of their combinations, as the case seems to demand. We are not yet, by any means, free from these agents, but find place for them many times, although they are not used so indiscriminately as of old. Hydrastis may well replace the foreign tonic in most instances. Golden-seal is more than a bitter; its berberine contracts the relaxed gastric mucous membrane, while the white alkaloid hydrastine exerts an influence that is recognized by many more practicians than are able to define or to explain its mode of action.

In France, many physicians prefer brucine, but here the little sister is neglected for her elder one. Brucine is distinct in its powers and should not be thus confused therapeutically with strychnine. Notwithstanding the assertion of Murrell, brucine is not merely a "little strychnine," but it possesses a distinct power that is wanting in the latter. This is its property of inducing local anesthesia. By virtue of this, it is suited to cases displaying irritability of the stomach or actual pain there. Subacute exacerbations of chronic gastritis are quite common and are exactly met by brucine in doses of 1-2 milligram. It may be repeated quite frequently—every half hour, in case of great debility.

Stimulation of the sensitive nerves of the stomach often is needed, but is more apt to be overdone than neglected. A granule of capsicum fills the need, or one of piperine; either of which may be administered with the digestive and the tonic. In irritative states, these do harm; in relaxed, languid conditions, they add greatly to the efficacy of the remedies given conjointly.

It may be that the digestive secretions are vitiated or scanty, when we have two most effective agents at command in emetine and juglans. The latter well replaces rhubarb, with the advantage of very small doses. It is to be chosen if laxation is desired; emetine, when this is not the case so much.

Juglans for children, for beginning summer complaints, travelers' diarrheas, and decided nauseas; emetine for adults, for drinkers, for infections of the stomach and bowels, for persons in or from tropical countries, or those who have suffered from tropical dysenteries or other gastrointestinal maladies. Emetine is better if insomnia is a feature of the case; juglans for those who swill ice-water and rootbeer.

The presence of fetid breath indicates the need of an emetic in many instances, and usually of an antiseptic following. Many verify the selection of copper arsenite, others prefer one or other of the sulphocarbolates. It is often a matter of preference and of usage—a doctor will do better work with a drug to which he is accustomed than with one rather strange to his practice. But the sulphocarbolates act quickly and effectually, and are better for acute maladies; the arsenite may do good in chronic affections, in infections, in malarial and syphilitic persons, and as a succedaneum to the others when the patient goes from observation, traveling, and the difference in the bulk of the packet he carries is to be considered.

But, as we intimated at the start, the treatment, and especially the management, depends primarily upon the answer to the question, Why has the patient no appetite?

Self-trust is the essence of heroism. It is the state of the soul at war, and its ultimate objects are the last defiance of falsehood and wrong, and the power to bear all that can be inflicted by evil agents.—R. W. Emerson.

OURSELVES AND THE DRUGGIST

It is exceedingly regrettable that there should be, in any quarter, and to any extent, such a feeling concerning the relations between the physician and the druggist; that fidelity to the interests of the one should be regarded as tantamount to hostility to those of the other. Unfortunately, such a feeling does seem to prevail; we ourselves are touched by it. There seems to be an idea abroad that we are unfriendly to the druggist, for which the only possible basis can be that in matters pertaining to medicine we espouse the cause of the doctor.

Of course, we are *not* unfriendly to the druggist. On the contrary, we have the friendliest and kindliest feelings toward him, both as an individual and as a class, and have for many years enjoyed very pleasant and mutually advantageous relations with him—relations which we hope will continue to be exercised during many years yet to come. Naturally, being a medical journal, of the doctor, by the doctor, and for the doctor, we are concerned, first, last and all the time, with the doctor's interests. And when the interests of the doctor and the druggist happen to be, or at least seem to us to be, in conflict, as even honest aims and interests will sometimes be, it would be strange, indeed, if we

did not champion what we deemed the rightful claims of the medical profession, whose direct representative and voice we are.

But, because we have thus occasionally found ourselves obliged to cast our voice and our influence against the druggist in this or that question of ethics, or of economics, or even of principle, it does not therefore follow that we are unfriendly to him and his calling. Such a view of the matter is exceedingly short-sighted, and we earnestly ask our druggist friends to banish all such thought from their minds. We entertain the highest regard and esteem for the pharmacist and his work. Next to medicine and the medical man, our interest and sympathies logically center in pharmacy and the pharmacist. In the main, we look upon his interests as practically identical, or at least indissolubly bound up, with those of the physician. It is because of this that we believe a loyal fidelity to, and promotion of, the doctor's interests to be the very best evidence of our genuine friendship for the druggist.

Not only do we ourselves entertain the friendliest feelings for the druggist, but we continually preach the same sentiment to those with whom we have any influence, and endeavor to promote relations of mutual friendliness and advantage between the doctor and his druggist everywhere. We flatter ourselves that we have actually done a great deal toward establishing and furthering these relations. In fine, we look upon the doctor and the pharmacist as complementary forces in the same general cause, bound to each other by peculiar ties such as bind neither of us to any other profession or calling. That being so, how can we entertain other than the friendliest interest in all that concerns the welfare of the pharmacist?

How oft the sight of means to do ill deeds
Makes ill deeds done.

—Shakespeare.

THE CARE OF THE CONVALESCENT

The convalescent condition is one of vast importance to the patient, and, yet, one that is frequently neglected by his physician. The former is relieved of apprehension and begins to count the cost of his adviser's daily visits; the pressure of duties postponed and expenses incurred weighs upon him, and the call of his lifework becomes loud and strong. The doctor also is through worrying over that particular patient, and others demand his attention and engross his thoughts. Between the two, the patient too often is neglected.

Many a time the treatment and care cease when the dregs of the malady are still in the system, and there they remain. The seeds of lasting disease are implanted by too early resumption of duties, when the system still is overburdened by the debris of the affection scarcely completed in its course; the eliminants still are behind with their tasks, the nutrition is as yet unequal to making up the deficiencies, and the appetite, founded on real bodily needs, is ahead of the digestive and assimilative powers.

Little wonder that so many in after years date the beginning of their broken health from an attack of some acute infectious disease.

Keep your patient under control and treatment until he no longer needs either. How many difficulties would vanish were we to adopt the pay system of regular salaries for the doctors in place of the fee method now in existence.

Keep up the eradicant medication—the mercury, sulphide, quinine, arsenic—until the last possibility of the disease, be it syphilis, gonorrhea, malaria, or what not, has been extinguished. In treating infections, the correct hypothesis is the extinguishment of a conflagration: keep at it until there is not a spark left alive.

Keep up the elimination until every particle of the debris that loads the cells and the lymphatic system has been cleared away and the road is open for the ordinary waste of a body that demands extra quantities of foodstuffs to be worked up into repairs and reconstruction.

Keep up the supply of such foods as are required, in such forms and quantities as the patient can take care of properly. The appetite represents the needs, but not, by any means, the digestive capacity. This may be reinforced by the artificial digestants, pepsin, pancreatin, papayotin, and their combinations. Excellent forms of these are furnished, by the leading manufacturers, in tablet form, in which neither of the ingredients can digest the others. Nothing can prevent active pepsin digesting pancreatin in solutions Nothing can prevent alcohol, strong enough to keep animal digestants from decomposing, inhibiting the activity of these enzymes. If fluids are necessary, use pepsin with hydrochloric acid, malt extract for its diastase, or a pancreatin solution; but don't try to administer any two in the same liquid, and hope for benefit from both.

Keep down the exercise of mind and of

body to what the patient's returning strength is capable of enduring without undue waste of the newly energizing functions. Sedulously keep worry away from the degenerated cerebral tissues of your typhoid patients. Many a mental and nervous malady has its roots in this error—an inexcusable one, too, for we know very well that such results are liable to follow.

As a special medicament for the convalescent stage, we might descant upon nuclein. If any drug restores vital force, it is this. We know that the debility of the convalescent period affords special opportunities for new microbic attacks, and whatever reinforces the exhausted leukocytic garrison of the body is especially needed here. And, if nuclein does not do this, then, what does?

For the same reason, arsenic very often is indicated—to impart to the red blood-corpuscles a degree of resistance against any invading microorganisms that may penetrate to the blood stream.

Iron is almost a matter of course, the anemia of convalescence offering one of the most favorable opportunities for displaying the striking powers of the martial metal.

Quinine is too well established as a tonic for anyone to question its value now. Not only in malarial maladies, but in all atonic states this precious alkaloid has vindicated its reputation in the hands of thousands upon thousands of clinicians the world over.

What of strychnine? My conviction is that we prescribe entirely too much strychnine; that is, we employ it in too wide a range of conditions. Many times we do better by availing ourselves of the direct stomachic tonic principles of quassia, hydrastis or gentian; or of the tonic-digestant powers of juglans, myrica or xanthoxylin—remedies that should be more widely known and prescribed. Nevertheless, there are times when we must have the powerful uplift of the tetanizant alkaloid, and if administered in well-apportioned dosage strychnine never fails. Every function of the body responds to its energizing propulsion; every remedy administered in conjunction with it takes on new efficiency.

As a rule, the combinations of the tonics named do better than either one singly. The needs of the body rarely are simple, but debility of one function carries with it similar weakness of the others; and a group of synergistic remedies works better than one alone. In cases in which the highly effective combinations of arsenates are not indicated, we may utilize those in which the combining element is phosphorus—the much used and abused compound phosphates and hypophosphites. Whatever may have been the hypothesis upon which these salts were first introduced, Robinson is right in asserting that nowadays we use them because they do the work we want done—they "deliver the goods." Doctor, is it not a matter of surprise and concern to you when you have prescribed this combination and your patient reports no improvement from its use? That puts your wits at work to detect the underlying condition that has interfered with the otherwise sure action of this great roborant.

The convalescent stage is one in which long since we have recognized the benefits following the administration of calcium salts. Now we are told that in pneumonia there is an absorption of calcium by the invading parasites, and that safety lies in our keeping up the supply necessary for the bodily needs. If so in this infection, it probably is true in others; and our use of calcium salts is justified. For many years we have given preference to the lactophosphate of calcium, because it is soluble in water and presumably gives less trouble and work to the bodily chemistry than do insoluble forms. Why burden the vital functions unnecessarily?

Following this same line of reasoning, we have for years been partial to the foods that throw least work upon digestion and assimilation. The food that animals take with least digestive effort is the white of egg, which is absorbed by the fetal chick without passing through any digestive system. Egg-white passes into the developing alimentary tissues with a minimum of digestive effort, hence is an ideal convalescent food, when proteins primarily are required.

Take one step further—the only possible step remaining—and we have blood itself. Transfusion comes nearer than aught else to raising the dead. Use blood as a food, and it certainly is digested, but it surely must take less to accomplish its utilization than any other food. In practice, our use of the preparations that are based on blood as their main constituent has vindicated our belief.

Lecithin is a newer remedy, but has much authority backing it. The same reasoning applies to it as to nuclein. The effects of such agents is more like that of foods than of ordinary drugs, and it is difficult to estimate their values unless one has a laboratory to reinforce his clinical observations. But, then, the modern physician has to have such backing. So, why waste time discussing it?

The food should be given at short and regu-

lar intervals, as the needs are incessant and the digestive power is small. Give every four hours as much as the digestion can manage well, increasing as it gains power. At first choose the very nutritious and easily digested foods—soused meats, raw beef and oysters, clam broth, turtle soup—somehow the shellfish seem to slip into the system with less bother than other proteids. Rice, uncooked fruit-juices, barley-water or oatmeal-gruel as drinks instead of the caffeine-bearers, and the excellent partly digested cereal foods.

No alcohol in any shape or form, not on any excuse. It is a disaster to the convalescent.

PROHIBITION SUCCEEDS

Advices from friends in West Virginia indicate that the prohibition law that went into effect the first of July is proving a success. A drunken man is now a rare sight in the streets, and the saloons have been converted into other kinds of business. While it is not likely that the use of alcohol will ever be entirely stopped, it nevertheless is being greatly curtailed and its patrons limited to those who already have fallen under its power. Many a man will go into a convenient saloon for a drink who would not go a few squares out of his way for its sake.

However, the principal value of prohibition lies in the fact that it keeps temptation from adolescent youths. If we can carry the boy to the age of discretion, without touching liquor, it is far less likely that he will take to it later; for by that time he knows its evils and appreciates the arguments against it.

The true test of the matter comes when in a given locality the few remaining cases of inebriety are investigated and the source of their supply ascertained. If it is an illicit rumshop, swift and heavy punishment should be visited upon this meanest of lawbreakers. If, as probably is the case, the Ohio towns across the line from West Virginia furnish the alcohol, the situation is more difficult. Public sentiment should be aroused, in that state, and the people should be made to see that debauching the citizens of a neighboring commonwealth scarcely is compatible with the repute of the modern mother of presidents.

Let Ohio do its duty, and we should still have to deal with the petty malefactor who "bootlegs," and the one who runs a well-stocked houseboat along the river, dodging across the line whenever the officers of either state get close to him. With all our respect for the statute law, it seems as if sometimes there were room for natural law, of the sort that the people take into their own hands.

The evils of alcohol are so tremendous that upon every one of us devolves the duty of doing his best to combat this scourge. While concerted action accomplishes much, while the united efforts of womanhood have placed the prohibition laws in the statutes of many states and smaller communities, there is room and duty for every one of us. No other man can do as much in this line as the doctor; and all the more is the duty incumbent upon us, as we have been directly charged with aiding in creating the habit.

We may have aroused a sleeping craving for alcohol in some, or in many, by prescribing alcoholic remedies; we should not do this in any case. We do not have to prescribe alcohol; there is not a solitary use to which it can be put for which we have not as good or better remedies at our disposal.

This may seem like barking at an empty hole, for we do not nowadays prescribe wine and liquor very often. But how about alcoholic drugs?

More than once this writer has incautiously prescribed the pleasantly flavored spirituous concoctions of the pharmacist and then taken alarm at the warmth with which the patient approved of their taste. More than once has he witnessed an unsuspected thirst for liquor aroused by some alcoholic drug. One never knows—the growing boy may have had a grandfather who was addicted to whisky, so powerfully that he has transmitted the craving across a sober generation to the second.

The remembrance of even but one such case is enough to give a bad taste to one's dinner; and a sharp twinge to his conscience. Better avoid the possibility of it. After all, can we not get all the virtues of any drug out of its solid forms, pills, tablets, powders? Must we use the tinctures and other alcoholic forms?

PLEASE READ THIS

One of the most important therapeutic announcements ever made appeared recently in *The New Orleans Medical and Surgical Journal*. It dealt with the treatment of pyorrhea with emetine, administered hypodermatically. This is a development of the idea of Barrett and Smith, recently discussed in these pages. We are reproducing that editorial in this number, in the department "What others Are Doing." Be sure to read it. It records another and one of the greatest triumphs for the alkaloids.

Leading Articles

The Surgeon's Work in the Great War

Reported from the Firing Line

By T. D. CROTHERS, M. D., Hartford, Connecticut

EDITORIAL NOTE.—Doctor Crothers has given us in this interesting article a report of actual surgical experiences with the British army in the field, as embodied in letters to him from a warm personal friend now serving in France. For obvious reasons the name of his correspondent can not be divulged. We hope to be able to publish more of these letters in succeeding issues of this Journal.

AN ENGLISH surgeon on the front line of battle has sent me some very interesting items regarding the work that is going on there, which I am sure will interest medical men in this country.

Physicians of England connected with the military organization of course had to go to the war, unless they could find substitutes. In addition to this, a great many young surgeons as well as some older ones volunteered. They all went off silently, without any public notice, only their immediate friends knowing of their departure.

After the first two engagements the medical work took on a fixed character. The younger men, including hospital students who were commissioned as acting surgeons with stretcher-bearers, kept along the front lines, in close proximity to every engagement, both of artillery and infantry. Their work was, to give first aid to the wounded and direct them how to go to the rear. They decided as to those of the wounded who could not be moved, for fear of early death, and had them put away in secluded positions, making notes of their names and the nature of their injury. After a fierce engagement, if the enemy retired, they were to make note of the burial trenches, particularly of the killed who were interred, and also to designate the location of these trenches.

Some miles in the rear, the main hospitals were established. Here the operating surgeons looked over everyone that came in, performed the operations necessary, sent them farther inland, or determined whether they might be taken back or sent to their homes. The surgeons here were of the older men, who were able to make very accurate diagnoses and prognoses, and do exact work under the most favorable conditions. Most of these hospitals were out of the firing-line; but the distance varied widely, according to the success of the opposing forces. Sometimes these hospitals were within a mile of the conflict. They were all situated on some stream or near a big well. All were in such a shape as to be removable in a few minutes in case of necessity.

The country had all been mapped out by the French and Belgian governments with great minuteness. Every farmhouse, stream, grove and forest, valley, contours, and so on was thoroughly known to the commanding general, so that the disposition of every company and every battery was exact. Telephone lines on the ground ran to the rear, enabling the commanding officers to know the exact disposition of every movement of the troops. Airships overhead confirmed this information, and there was a military exactness about the work such as never was seen before.

Terrific Mortality From Artillery Fire

Wherever the machine-guns were used, the mortality was frightful. Some men were shot a dozen times. Fortunately the line usually was very thin. The schrapnel inflicted most damage by the fragmentary wounds, cuts, broken legs, broken arms and so on caused by them. As compared with the number of contusions, bullet-wounds were very few.

The medical men and hospital-corps were pledged not to reveal any facts to the public, and a severe censorship was exercised over all personal opinions; and, yet, all the medical men were allowed to keep very copious notes, as were also the officers. The exactness with which the movements of the enemy were noted, as also from where they seemed to come, if in great masses and intending to

break through the lines, called for a large number of the hospital-men. Often before the infantry engagement took place a half dozen flying hospital-stations would be established, and the stretcher-bearers and medical corps would be close along in the rear of the charging lines.

Each physician knew the location of the nearest hospital. When a man was brought from the front, whose injury required immediate attention, the doctor did what he could, then sent him to the exact place where more pronounced aid could be given. If the line of conflict in front was changed some two or three miles in either direction, the doctors were so informed and ordered to report in that neighborhood. If there were woods or deep gulleys or creeks, the leading medical men in the rear told those in the front how to adapt themselves or take advantage of circumstances, so there was very little confusion.

Now and then an enthusiastic company would dash out beyond the front lines and be destroyed or the men taken prisoners. The medical attendants in that neighborhood were to exercise their judgment in not following to the extent of being captured. Oftentimes these men were so severely wounded that they could not be reached, without the danger of the stretcher-bearers being captured.

Often the Germans gathered up the wounded and took them along. Usually, however, they were left on the field, and when the airships told those in command that the enemy had receded at that point the medical men had to go forward and bring in the wounded. The dead, of course, could not be buried at the time. Much of this work was done at night; for, German sharpshooters, during the day, would fire into these searching-parties if they had a chance.

A Severe Censorship

Many of the wounded, on reaching the central hospital, collapsed and were placed under the best conditions for temporary recovery. Those who could stand it were sent back to the rear, by means of all sorts of conveyances. Eventually they were sent to the channel-ports and taken home to the various hospitals in England. The same censorship mentioned stopped the gossip and talk of these men, so that the press has very little idea of the terrible scenes through which they passed.

The central hospitals, back from the front, were managed by most capable medical men. They were supplied with soup-kitchens and every possible appliance; but no spirits or beers were allowed. Strychnine is being used very largely, and also some other drugs of that nature; however, water and the ordinary antiseptics were the most commonly used remedies. These central hospitals had a certain supply of shirts, clothing, and blankets, to make the wounded comfortable; also vehicles of all sorts for transportation in case of removal.

The severe rains and cold weather made it almost impossible to protect the patients, except those most severely wounded. Others who could walk or had minor wounds were hurried to the rear as far back as possible. The desperate cases, on the other hand, were protected by straw stacks, hay stacks, sheds, and any other available thing.

The surgeons were divided. The operators worked half a day at a time, and the rest of the time they visited and supervised the dressing and care of the wounded. It was found that six or seven hours spent in examination and operation was about all the surgeon could do, and where substitutes could be found they were called into service. The dressers and nurses could not always be concentrated at the proper time and place, and in some engagements that lasted several days it was possible to have nurses of the Red Cross and others gathered in numbers to do the work.

The whole twenty-four hours were occupied by the surgeons and assistants in dressing the wounded, performing operations, and determining where they should go. Many of the engagements continued all night and day, and the wounded were coming in constantly; and the scarcity of surgeons at some places kept many men on duty for the entire twenty-four hours.

Accuracy of News of Movements

The system of telephoning was so perfect and the observations of the airmen so exact that the officers in the rear could determine with much certainty where the medical men would be needed; and the medical men would, from a map of the surroundings, decide where a hospital would be most available.

A great many volunteer surgeons have returned to England as fast as their places could be filled. Almost every medical man who has any qualifications or experience is warmly welcome. A number of American surgeons have quietly been put into service. But on all is the pressure of the censor, not to reveal anything to the outside world.

My surgeon friend expresses the opinion

that the mortality is greater in this war than it ever was before, while the number of the wounded is far less in proportion. He thinks the medical care has been the very best both in the German and French armies. He praises the wonderful system and accuracy of details in the artillery fire as well as in the machine-gun work. He notes the fact that a great many wounded Germans who have been taken prisoners are much discouraged; hence, their mortality is greater. On the other side, there seems to be more optimism and cheer. No distinction is made: wounded Germans who were taken prisoners receive the same treatment, and they fall in at once with their enemies in the most business-like way.

My friend thinks that the number of prisoners on both sides will be smaller than in any other war, because of the exactness with which the movement of each company and regiment can be determined. In closing his letters, he expresses a wish that ambitious young Americans who would like to see something of the great conflict should go to the war office in London with their credentials and secure an appointment, especially in the English army. If they can speak French, they will be warmly welcomed in the French army.

The Letters of Doctor Leonidas Playfair

Addressed to a Young Man Just Entering Practice

By A. H. P. Leuf, M. D., Philadelphia, Pennsylvania

EDITORIAL NOTE.—The difficulties of the young doctor! How many there are and how mountain-like they seem to the youngster; and how small and inconsequential they appear to us older fellows compared with the burdens we are bearing. However, let us give the boy a lift, in other words— advice! Old Doctor Playfair understands the problems and aspirations of youth and can speak for us all. If his first letter pleases he will write again.

LETTER I.

On A Suitable Location

MY DEAR FRIEND: Your request for advice concerning the selection of a location in which to begin the practice of medicine reached me this day, and it is a pleasure for me to comply at once, for I hope that you will find my suggestions useful and easy to follow. I will also take this opportunity to tell you that the past three years of friendly intercourse between us in the relation of preceptor and pupil have really drawn me closer to you than I realized, until after our separation a week ago for an uncertain time, perhaps forever. Hence, my increased interest in, and solicitude for, your welfare.

You say that you have no idea as to where to locate, and desire suggestions from me in any way that may assist you to success and aid you in the avoidance of the many pitfalls so open to the beginner in practice. You assure me of your eagerness to repay me in the future, as far as lies in your power, as well as you did in the past for what I have already done. On this matter rest assured, however, that no other return can be as satisfactory to me as that you would so benefit by my efforts and counsel—past, present, and future—as to meet with merited success. And lest you might misunderstand my meaning in regard to that significant word "success," let me say what I would have it signify to you.

The Meaning of "Success"

As for me, I would have the word "success" to mean that, when you rest your weary head upon your pillow at night, it would be with the gratified consciousness of having done during that day whatever lay in your power to lessen the sufferings and to add to the happiness of those whom you have met; that you have not permitted anyone to obtain an unfair advantage over you because of your indifference or weakness; that you had not neglected any duty to yourself as a man or to the community as one of its citizens in the fearless unmasking and prosecution of a wrong; that you had maintained your highest self-respect by respecting others according to their due, and rendered to those older or abler or more experienced than yourself that regard for these qualities to which they are by nature and circumstances in all equity entitled.

And this, in short, should be your daily habit, so that when you die, whether this be soon or remote, no one whose good opinion

you crave can say aught against you, but would rather be compelled to remember you with heartfelt regret, and not alone for your merit as a private individual, but, moreover, as a practitioner of ability, a true friend, a wise counselor, and a citizen of public spirit. This is, essentially, the only real, true, genuine success, all others being shams.

City or Rural Practice

The selection of your field of labor is a very important matter. This is not so important for those who have unusual powers of adaptability, because they can readily adjust themselves to any reasonably fair environment. For you, however, who do not possess this rare quality, this question will require the most careful consideration, for it involves the decision between city or rural life, or that combination of both—which really is neither —in what is called a small town.

If your tastes are rural, select a section of the country that pleases you most. Consider it with reference to all seasons of the year, so that, though you may be in love with your surroundings during one period, you may not be unduly dissatisfied with them at some other one.

Furthermore, do not overlook the strain upon your health imposed by night work in cold and wet weather in country practice, since that in a few years might oblige you to yield to another, and at a loss, the field your arduous labors will have cultivated. Moreover, such a misfortune may totally undo you as it has so many others who have not had the courage to begin anew. And such a calamity would be augmented by your impaired health and entailed separation from acquired and valued friends. All these things are to be considered.

If your tastes are scientific and literary rather than of that hardy practical character required of the plain, everyday "doctor," the city is likely to be a more suitable abiding-place; if, however, you have not the means to sustain yourself until you build up a living-practice—which usually requires at least one or two years for a single man of moderate needs—you may not hope to remain in the city unless you connect yourself with an established practitioner as his assistant.

Assistant Partnership

This brings up the important question as to whether it is or is not advisable to be an "assistant" to anybody in private practice. Many a prospective bright future has been blighted by the mill-stone of assistanceship. This relationship carries with it the indelible stamp of inferiority—an incubus with which no wise man will rashly encumber himself, however temptingly the inducement may offer. True, it makes an easier beginning than does independent action, but, on the other hand, all future progress is thereby retarded, if not even made impossible.

And, yet, it by no means follows that the city is the best place for the studiously inclined. The proximity of the libraries and the opportunity for association with one's fellows constitute advantages; nevertheless, these can be very little indulged in if one's object is, first of all, to make a living and build up a home. Besides this, city life offers many more profitless inducements to neglect work than does the country, while one is subject to numerous unnecessary interruptions by adventitious callers. On the other hand, the young physician in the country has, at all events, the opportunity to study in greater quiet and freedom from breaks upon his continuity of thought.

Still, the question as to choice, city or country, after all is mainly one of personal predilection, and is governed by individual taste and requirements, besides numerous other factors that each individual must, as a rule, decide for himself.

The New Country For The Enterprising

Young and vigorous men, especially those with a spirit of adventure, are best fitted for practice in sparsely settled, usually new communities, or they may go to new countries. Our own far-western lands still offer many such locations. Then there are fertile fields in Mexico and South America. Africa affords another promising opportunity.

But, no man should undertake such a venture without due consideration. Too young a man is liable to be disappointed in such an enterprise because of his lack of experience, both in his profession and his knowledge of human nature. Practice in a new region often means a trip of many hours on horseback to get to the patient, and as many more to return. Results are not as satisfactory as they might be if patients were more accessible and could be seen oftener, although the advantages of a splendid climate and the superb physiques of patients in virgin territory add largely to the recuperative powers of the individual.

The small country village is too apt to be full of inane gossiptongues ever ready to say an unkind word rather than to speak well. An indiscreet man easily becomes a prey to

indirect vilification, and, worse yet, carries with him those of his patients suitably related to him to provide a soil for the growth of foul rumor.

Thus, greater alertness is required of the doctor in a country village than in a city practice. He is most independent in this regard in the largest cities, just as that man is said to be most lost in the world who is in the thickest of it. The best place to escape detection is in the great centers of population, and in the midst of their teeming thousands do we have the greatest suffering, for the reason that few care to trouble themselves about the innumerable difficulties of so many others, to which one becomes accustomed by continued familiarity.

Counsel Anent City Practice

Should you decide upon trying your future in the city, I would advise you to locate in a populous neighborhood. Here, the people, though poor, usually are honest and pay their bills, unless too much in debt to be able to get out entirely. They are paid every week or two, and spend their wages as they get them. Some few save. Be reasonable in your charges, close in your collections, and courteous in your treatment; but permit no familiarity, nor encourage useless waste of your time.

In such a neighborhood, and by closely following these outline precepts, you ought soon to be paying necessary expenses; after which you can add to your professional appliances and enlarge your field of work. Thus you build up your reputation as a man and physician until it reaches those able to pay you larger fees. The first step, once taken, soon leads to others, until your final position may be anything, within reason, that you choose.

Young men ambitious of social preferment often make the fatal mistake of locating in a wealthy neighborhood. Unless possessed of ample means, in which event it is his natural location, such a man only advertises his poverty to those with whom he would find favor and mingle on an equal footing. The independent selfmade man is admired everywhere. The "aristocracy of blood" too often has in it only a little sense, whereas that of true worth is nearly all sense, with a sprinkling of unavoidable, though largely justifiable, egotism.

If your tastes are social, build up your way by able, patient effort, honest dealing, and courteous bearing. Live well within your income, so that you may accumulate a working-capital. Plan well and absolutely secure every advance move, so that there be no danger of retrogression, of failure, for that is a misfortune that the social moths can never overlook. But more of this subject at some future time.

Be careful not to locate in the neighborhood of a large hospital or dispensary, opposite a park or close to a railroad. Your location should always be relatively central, so that practice may come evenly to you from all directions. A railroad or a park virtually cuts you off from the territory beyond. It is one peculiarity of human nature that people will go a much farther distance through a built-up section than a shorter one through a park-way or along a park-side or railroad. There are other places, having the same effect, near which a physician should not locate. For instance, a river, a lake or an unbridged creek.

In short, then, locate so as to be equally accessible from all sides. This means that in large cities you should select your location with a view to its accessibility from different patients on the surface car-lines, and, still better, also by one or more railroads.

With the motives that actuate the purely mercenary graduate, I have no sympathy, and trust, and heartily believe, that you, my friend, ardently share this feeling. But never forget that you must ever have in mind pecuniary matters so long as you depend upon your fees for existence and the acquirement of additional knowledge; for, you have consecrated yourself to the welfare of your fellows, and can do this sublime duty only by properly caring for your bodily and mental needs; and this your receipts from practice alone can supply.

I shall be more than pleased to advise you further after you have settled upon a location. Meanwhile believe me, with sincere regards and well wishes,

Your true friend,

LEONIDAS PLAYFAIR.

Rational Therapy for Pneumonia

By J. M. French, M. D., Milford, Massachusetts

EDITORIAL NOTE.—This completes the discussion of pneumonia begun by Doctor French in the October number of "Clinical Medicine." The two papers should really be read together.

THE principal considerations in the treatment of pneumonia may be grouped under five headings, namely: (1) the digestive system, (2) the fever, (3) the heart, (4) the lungs, (5) the nervous system.

The Digestive System

A large proportion of cases of pneumonia are characterized at the outset by a coated tongue, a bad taste in the mouth, an overloaded stomach, more or less constipation, an inactive liver, and sluggish secretions generally. Where these conditions obtain, the first thing to do is, to clear out the alimentary canal before adopting any measures against the pneumonia directly. Moreover, do not allow the patient to get any food whatever until this is done. In fact, no food at all should be given in these cases for the first day or two. A little judicious starving will do such a patient good. Do not worry about nourishment; when the time comes that he wants to eat and can digest, then is the time to think about feeding him. From that time on, though, the problem of proper nourishment is of supreme importance.

There are a good many ways of clearing out the intestinal canal, and no one of them is always the best. When you see the patient early and the urgency is not too great, you may prescribe calomel, in divided doses of 1-10 to 1-6 grain, every fifteen or thirty minutes, until 1 grain has been taken (or the same combined with an equal dose of podophyllin), followed in an hour or two after the last dose has been taken by a good-sized dose of saline laxative. I find this one of the most satisfactory measures for the purpose. Often, in the case of adults, I give a triplex pill, composed of aloes, blue mass, and podophyllin, at night, followed in the morning by a dose of laxative saline as before. There are times when a good dose of castor-oil is better than either of the foregoing.

It is not well to confine oneself to any one method. The great thing is, to get the desired result. The dose of the indicated remedy is not any arbitrary number of grains or drams, but enough to produce the effect aimed at, and no more.

Nearly or quite all pneumonia patients are benefited by this preliminary cleaning out. Similar measures should be adopted, choosing such dose and such intervals as may be needed, for keeping the alimentary canal in proper condition. Do not let the patient become constipated at any stage of his sickness. A properly functionating bowel always is a *sine qua non*.

The character of the food to be taken does not depend so much upon the "name of the disease," as upon the condition of each individual patient at a given time. If he relishes and digests beefsteak, then there is no reason why he should not have it. If he can digest only milk and lime-water or any one of the numerous varieties of liquid food at command, then that is the proper food for him. Each case must be judged on its own merits. But nourishment of some proper kind the patient must get, and get it in sufficient amount to keep up his strength, if he is to pull through and recover his health.

The Fever

No doubt some cases, running a mild course and where there is only a slight rise of temperature, would progress just as well without special treatment for the fever. It is a significant fact, however, that pneumonia-cases in which there is only a low-grade fever are the most dangerous of all. The rule of prognosis, based upon the highest temperature reached at any period of the attack, is, that *the mortality decreases steadily as the temperature rises, up to 105 degrees, after which it increases with the further rise of the temperature.* The line of greatest safety is found when the highest temperature is between 103 and 105 degrees. The reason for this phenomenon is found in the fact that a low temperature is the result of a low vitality and lack of resisting power. The remedy lies, not so much in lowering the fever, as it does in raising the vitality and increasing the resistance of the patient.

The principal fever-remedies relied upon by the active-principle therapist, and used in the form of soluble granules, are the following: aconitine hydrobromide, (gr. 1-800), veratrine hydrochloride (gr. 1-128), the "trinity" granule (containing aconitine hydrobromide, gr. 1-800; digitalin, gr. 1-64; strychnine arsenate, gr. 1-128), and the defervescent compound (containing aconitine

hydrobromide, gr. 1-800; veratrine hydrochloride, gr. 1-128; digitalin, gr. 1-64). With these four kinds of granules, he feels well able to combat with most of the grades and varieties of fever, and to do it successfully whenever success is possible.

Aconitine is the great fever-remedy, and is indicated especially in children, in the early stages of acute fevers, and in asthenic cases where the pulse is quick and weak. The usual adult dose is one granule, preferably dissolved in a teaspoonful of hot water. It should be given every half hour or hour, or sometimes as often as every fifteen minutes for a few doses. When the medicinal effect is evident, as seen in the establishment of perspiration, the tongue becoming moist, the pulse softer and slower, and the temperature lower, then the frequency of administration is lessened to one hour, or frequently even to less.

Veratrine is the remedy of choice in sthenic fevers, when occurring in strong and vigorous adults, and is indicated by a full and bounding pulse. This is the theoretical indication. Practically, I can say no more, as I never have used it in pneumonia except in combination with aconitine and digitalin, in the form of the defervescent compound.

Very often the trinity granule is preferable to aconitine alone, especially where there is notable debility or a weak or diseased heart, as in alcoholism, old age, and other asthenic conditions. This combination may safely be given every half hour until the medicinal effect is produced, and then every hour for as long as needed to maintain the effect.

When the crisis is passed, the fever gone, and the temperature normal or subnormal, it often is well to stop the trinity granule and in its place give one granule of strychnine arsenate and one of digitalin, thus omitting the febrifuge effect of the aconitine, while continuing the tonic action of the other ingredients. This dose of strychnine and digitalin may be given every two hours as long as needed. They may be given in solution, or, in case their bitterness is strenuously objected to, in the granule form, but always with a few swallows of water, to favor solution and ready absorption.

It is probable that the defervescent compound is being prescribed less frequently than its companion, the trinity granule; but in its place it is unexcelled and unapproachable. Given a patient with a good constitution, I know of no other remedy which will abort so many attacks of pneumonia as this one. Also, where the milder remedies fail to control the fever satisfactorily in sthenic cases, this combination will do the work, and do it well. But it should not be continued when the sthenic condition is changed to the asthenic; when this supervenes, it should be changed for the trinity granule instead.

In cases of pneumonia complicated with pleurisy, and presenting a sharp pain in one or both sides, the pain being of a tearing, stabbing or stitching character and made worse by motion, while relieved by rest, bryonin, 1-64 grain, may be given in addition to the basic remedy, whether this is aconitine or one of the compound granules.

The Heart

More pneumonia-patients die of an overburdened heart than from any other cause. In fact, as has already been said, the great danger in this disease comes from the heart. More than this, the action of the heart, as indicated by the pulse, is the great guide, not only to the therapeutics, but to the prognosis of pneumonia. Based upon the highest pulse rate throughout the disease, the experience is, that *the mortality from pneumonia is in direct ratio to the frequency of the pulse.* An irregular, intermittent or dicrotic pulse always is suspicious and often a sign of danger; but, in formulating this rule, the frequency alone is considered.

The most important remedies in the treatment of heart aberrations in pneumonia are the following: First, strychnine and digitalin, which have already been considered, as forming a part of the two compound granules employed in the treatment of the fever, and the indications for which are well understood; and, in addition to these cactoid, glonoin (or nitroglycerin), and caffeine.

Cactoid is of especial value in the irregular or nervous pulse. Glonoin is given to relax the arterioles and relieve the overburdened heart, flushing the capillaries and strengthening the pulse; its action in these respects resembling to some extent that of alcohol. By the intensive method of dosage, this remedy is administered in doses of 1-250 grain instead of 1-100, and is repeated once or twice at intervals of five minutes in case the primary dose is insufficient; or, the three granules may be given at one dose, if thought necessary. But, in general, the single small dose is sufficient; and "the smallest possible quantity of the best obtainable means to produce a desired therapeutic result" is always to be preferred to a larger one.

Caffeine is a valuable heart and brain stimulant, whose beneficial action in medicine would be more often utilized, were it not so

universally present in our beverages. As is true of alcohol, caffeine is less efficient as a medicine where the system already is habituated to it. Also, this alkaloid must be given in larger doses. But, in any event, the effect of caffeine in sufficient doses is, to stimulate the entire nervous system, more especially the heart, brain, and kidneys.

The effect upon the brain is particularly desirable when there is a condition of depression; this, in pneumonia, may sometimes approach to unconsciousness, and from it the patient can be roused only with difficulty. Caffeine is best given hypodermically in these conditions. In this connection, it should be remembered that, uncombined, the base caffeine is quite insoluble in cold water and can be used hypodermically only by having the water, the spoon, and the syringe kept hot—which is not convenient. Therefore, it is advisable to use the caffeine sodium benzoate, which is readily soluble in cold water and, consequently, to be preferred. The dose of this compound is double that of the alkaloid, of which it contains 48 percent.

Alcohol, which formerly was almost universally prescribed in pneumonia, as well as in all fevers, is now but little employed, and the advocates of its free use are but few. Since we now have other agents that will serve all of the purposes for which it was formerly used, and serve them better and without the dangers attendant upon alcohol, it would seem to be the part of prudence to have recourse to them. Least of all is there now any excuse for giving alcohol under the impression that it is a stimulant. Its only use that might seem to be warranted by modern views is that of an anesthetic.

The physiological demand in relation to the heart in pneumonia is, to keep the patient in bed, and, further, during the period of and following the crisis, and until all danger from heart weakness has passed, to keep him flat on his back, not even allowing him to raise himself in bed during the period of more extreme weakness. Many patients have lost their lives by getting up too soon after pneumonia. Walking cases are especially dangerous for this reason. Never let pneumonia patients keep about the room; it is inviting death needlessly. Rest in bed, and, in all severe cases, the supine position, must be the rule.

The Lungs

As a rule, the prognosis as affected by the respiration is: *the mortality increases with the frequency of the respiration.*

The two chief symptoms connected with the lungs which need attention are, pain and cough. If the heart does not give way, if the brain is not overcome by the toxin of the disease, the lungs may be depended upon in most cases to hold out through the regular stages and come out all right.

The first point to be observed with reference to the lungs in pneumonia is, to see that the patient has an abundance of fresh air to breathe. As his breathing-capacity is limited to only a portion of the normal, it is of the utmost importance that he should be able to make the most of what is left.

Put him in the best room in the house, large and airy. Put the bed well out in the room, not up in a corner where the air cannot reach him. Many times a cot in the open air is desirable. I do not believe, however, that a pneumonia patient can safely be exposed to all sorts of temperatures, and to winds and rains and snows. I believe in pure air, and plenty of it; but it should not be extremely cold air. I know that there are many better men than I who do not agree with me in this, but I must tell what I personally believe, if I say anything.

The second point is, to check the cough when it becomes troublesome, to moderate its violence, keep it from becoming harsh and tight, and, in general, see to it that it does not wear out the patient. Still, a moderate amount of coughing is not a disadvantage, on the one hand, nor is it a necessity in all cases of croupous pneumonia, on the other. The common lay idea, that the exudate must be coughed up, is erroneous. Frequently it is absorbed, with equally good results.

No set rule for managing the cough can be given. All depends upon the amount and character of the cough itself. Sometimes it needs absolutely no attention whatever. Then, again, it calls for all your ingenuity to combat it.

External Measures

In considering the therapeutics of the lungs in pneumonia, we will consider first external applications to the chest. These are favored by some physicians, while opposed by others.

When the attack is accompanied by a sense of tightness across the chest and great difficulty of breathing, and especially by a sharp pain on drawing breath, (indicating pleuritic complications), I know of nothing which will relieve these symptoms more quickly and satisfactorily than a mustard-plaster applied over the affected region. This should be left on only long enough to produce hyperemia by

counterirritation, never being allowed to stay on long enough to cause a blister. Used in this way, the sinapism relieves the unpleasant symptoms, while doing no harm. If allowed to blister, however, the soreness resulting will interfere with any later applications, should such be desired, besides causing much needless discomfort to the patient.

If there is no pain and little or no difficulty in breathing at the outset, it is better to begin with an antiphlogistine poultice, or else omit all external applications. If, after the mustard has done its work, it is thought best to make further outward applications, the antiphlogistine makes as good and as convenient a poultice as anything I know of. Many prefer to use the cotton jacket from the first, while others make no application to the chest from first to last.

You must study the condition of your patient, then make your choice. I do not like the cotton jacket, because there is likely to be danger of catching cold in taking it off after the decline of the fever, unless it is done gradually.

When the patient is robust and plethoric and the fever is high at the outset, an excellent application is that known as the guaiacol inunction, made by mixing equal parts of guaiacol, oil of eucalyptus, and methyl salicylate. This may be used as a local application to the chest in the early stages. Only a small amount is required, and it should be well rubbed in. The usual effect is, to induce profuse perspiration, lower the temperature, and render the patient less uncomfortable. However, I doubt its advisability in asthenic cases. It should not be repeated more than a few times, nor continued beyond the early stages.

If the cough is tight and wearing, try this "A-C-E" mixture, which is best made freshly every day at the bedside, by dissolving 24 granules each of apomorphine, codeine, and emetoid, in 24 teaspoonfuls of hot water. Of this solution give a teaspoonful every fifteen or thirty minutes until the tightness is relieved, then once an hour or less often, as may be needed. This will loosen a tight cough as well as anything I have ever tried.

If the cough is hoarse and barking, as in measles or bronchopneumonia, then one or two granules of calcium sulphide, 1-6 grain, every hour, will moderate the trouble greatly. And creosote, in some of its forms, will exercise a favorable influence upon the cough. For this purpose, I am partial to the solution of calcreose, given in dessertspoonful doses every two to four hours, well diluted with water. It acts as an antiseptic and expectorant, and lessens and loosens the cough.

Creosote carbonate, employed according to the method advocated by Beverly Robinson, of New York, and by Van Zandt, of Texas, in many instances brings on an artificial crisis, or else hastens resolution. Van Zandt declares, as the result of his extensive experience, that he has seen many cases aborted, more mitigated, with a very small number seemingly uninfluenced by the remedy.

My own preference in these cases is for the preparation known as thiocol, which virtually represents the active principle of creosote, but chemically is known as potassium sulphonate of guaiacol. This may be given in divided doses up to 50, 60 or 80 grains a day, with absolutely no unfavorable effect upon the stomach or any other organ, and has seemed to me to be capable of meeting all the claims made by Van Zandt, besides being much more acceptable to the stomach and in no way disagreeable to take.

The Nervous System

In addition to the four cardinal points already considered, there are some other things which may perhaps be as well considered under the head of the nervous system as anywhere else.

When there is severe and continued pain in pneumonia, either in the lungs or elsewhere, and not relieved by milder measures, morphine hypodermically will, in most cases, promptly give relief and prove of permanent benefit; and it should be given unhesitatingly. Severe pain, regardless of its cause, is very exhausting to a sick person, and its relief contributes not only to his comfort, but to his recovery.

Some cases of pneumonia, especially in elderly persons, are marked by early and extreme prostration, approaching closely to paralysis. The patient is scarcely conscious, and can only with difficulty be roused. He seldom speaks and seems wholly indifferent. This is an unfavorable symptom and must be combated early, in order to have any hope of overcoming it.

The two remedies which seem to be especially adapted to this condition are, strychnine and caffeine. Both are here best given hypodermically. Both have already been considered under the heading of the heart. Caffeine has the quicker effect; strychnine is more sustained in its action. Do not give too large doses of strychnine. Remember that when a moderate dose, properly repeated, fails to produce the desired reaction, it is be-

cause of lack of vitality of the system, and it is generally useless as well as dangerous to proceed to heroic doses or measures.

Alcohol—what shall I say of this ancient and much vaunted remedy? The very idea of treating a case of pneumonia without whisky might well cause the fathers to turn over in their graves. I believe it usually is harmful, a paralyzant, an anesthetic instead of a tonic and stimulant, and that it generally lowers the vital resistance, increasing the death rate instead of lessening it. However, good men still differ on this point, and better men than I hold beliefs quite the contrary to mine. Nevertheless, one thing no one can question: its use is rapidly and generally lessening, not only in pneumonia, but in all other diseases. Our modern materia medica has substitute agents, which are better, surer, safer, and less harmful, for nearly all purposes for which alcohol formerly was used.

I have not spoken of the pneumo-bacterin treatment, partly because of a lack of sufficient personal experience to give me positive opinions on the subject. The general trend of professional opinion and practice, however, is toward their increased use, and there can be little doubt that the bacterins will figure more largely in the treatment of this and other diseases in the future than they have in the past or do even at the present time.

At present, the best professional advice is, to use them in addition to, not as a substitute for, the usual treatment, and to use them early, when possible. Their value seems to be in proportion to the importance of the specific infection in the causation of the disease.

Diseases of the Alimentary Tract

By A. L. Benedict, M. D., Buffalo, New York
Editor of "The Buffalo Medical Journal"

EDITORIAL NOTE.—Doctor Benedict has promised us a series of articles upon diseases of the stomach and intestines. This is the first paper of the series. Every physician who has been disappointed with his method of treating "indigestion," or "dyspepsia"—and who has not—should study faithfully the entire series.

AS THIS series of articles, by request of the editor, is of a practical nature, the writer feels justified in omitting many details, both of a scientific nature and such as would be requisite in a systematic treatise but which are readily understood.

Salivary Digestion

The importance of mastication needs no discussion, either as a factor in insalivation or as a preparation for further digestion. On the contrary, the time is ripe for a protest against fletcherism; for two reasons. In the first place, an undue time spent in mastication implies an undue extension of the period of preliminary gastric digestion. While the food cannot be dumped into the stomach in large masses and all at once, a reasonable approach to a definite progress of mechanic and chemic processes in the stomach is physiologically desirable. Otherwise, we have the same confusion of, and interference with, these processes as occurs when one meal is introduced into a stomach containing a previous meal only partly digested.

Secondly: Gastric secretion is reflexly stimulated by smell, taste, and temperature sensations above and probably by the muscular actions of mastication and deglutition. To reduce the food to an insipid, lukewarm gruel before swallowing, overcomes this important excito reflex complex. While the preliminary entrance of a (faintly) alkaline mass into the stomach stimulates acid secretion, the continued and prolonged admission of such a mass tends to neutralize the acid secreted, as well as removing the excitoreflex stimuli.

We may even question whether a third objection is not of practical moment—the wear of the teeth beyond physiologic provision for growth, such as is present in rodents, and inasmuch as the normal double dentition is not adequate to the demands of the relatively long life of man.

It should be thoroughly grasped, not only as a lesson in physiology, but as a practical clinical guide, that aside from the mechanic preparation of food for further digestion, salivary digestion means just one thing, namely, the conversion of *soluble starch* into *maltose*.

The writer is not given to Italics. But why are these three words italicized? Soluble, because ptyalin does not act upon raw starch; starch, because we must clearly comprehend that salivary digestion has nothing directly to do with proteids and fats, and that, with

a possible qualification, it applies only to certain forms of starch, not to carbohydrates in general; maltose, because ptyalin leaves carbohydrate digestion incomplete.

In a state of nature, all food is taken raw, unless by accident. The saliva of rodents (which animals live largely upon nuts and grains) is much more powerful than that of man and digests raw starch. Whether the saliva of monkeys generally, of other grain- and nut-eating animals, and of primitive man is able to digest raw starch, the writer does not know. This is not merely a confession of personal ignorance, it implies that an extended search has not resulted in finding definite, accurate, and generally conceded statements as to comparative physiology.

The fact that saliva does not digest raw starch is not an important handicap to civilized man. Green vegetables and sweet fruits contain comparatively small quantities of starch. Bread and other cereal and leguminous seed products almost invariably are cooked. Hence, virtually the only considerable quantities of raw starch that are eaten are in the form of bananas, certain nuts, and imperfectly cooked potatoes, radishes, and so on.

Physiologists commonly state that ptyalin digests *boiled* starch. As a matter of fact, the more general word *cooked* should be used. Neither is the limitation of ptyalin digestion to cooked starch a serious handicap. Not only is there ample provision for the digestion of proteids, fats, and some of the minor food principles—such as gelatin—by other organs, but ptyalin is more than duplicated by amylopsin of the pancreas, which ferment not only is much more powerful, but digests starch in the raw as well as in the cooked state. Another reason is that man is gradually increasing his ration of sugars, both in the natural state in fruit, and so on, and as prepared in the free state.

Here may be mentioned the possible qualification as to the limitation of the action of ptyalin to starch. Certain experiments seem to show that cane-sugar is at least partly split, to form the simple hexose, dextrose, and levulose. If this be so, we may suspect that milk sugar is analogously split into dextrose and galactose, and that the maltose itself is split to some degree into two molecules of dextrose. These are not purely academic questions, for the absorption of sugars, except as foreign bodies, seems to be limited to their ultimate cleavage into simple hexoses. However, an invert ferment occurs both in the gastric and the intestinal secretion.

Experiments have shown that, with thorough mastication, ptyalin may convert as much as 100 Grams of cooked starches into maltose at a meal—quite sufficient for the day's ration under ordinary dietetic conditions. How much is actually converted under ordinary circumstances, the writer does not know. Apparently, no standards of the amount of sugar in stomach contents have been established. This is a point deserving attention which the writer hopes to take up later. There are, however, two important facts that may be definitely stated.

There is virtually never an actual failure of ptyalin. The writer never has seen a case nor known of one, even with attempts to find such a case by examining patients having mumps, cancer, stomatitis, and so on. Normally, even with carelessness as to mastication, excess of starch in the diet, and so on, amylopsin will take care of all but negligible amounts of starch, unless in large, raw or improperly cooked and unmasticated masses. Such undigested and practically indigestible masses may cause trouble, mechanically or by bacterial fermentation, but the indication obviously is, to correct dietetic errors rather than to make definite efforts to secure more ptyalin or to substitute for it some artificially prepared diastase.

This last statement, though, should not be taken too literally in conditions of disease. There may then be a genuine indication either to force nutrition by artificial aids, or to prevent fermentation by the same means, in addition to enforcing hygienic attention to mastication. Neither should the relative lack of importance of ptyalin digestion be construed as justifying the waste of saliva as a missile by children, the neglect of the proper care of the teeth and mouth, the willful irritation of the mucosa of the mouth by tobacco, the continuous stimulation of the salivary glands by gum chewing, or hasty and imperfect mastication.

Oral and Esophageal Diseases

These are important and logically included in the digestive specialty. But, as they are treated in works on practice, and as the writer has no important additions to make, they will be omitted. The only suggestion tendered is to suspect gonococcic infection in mysterious and exceedingly acute and painful cases of glosso-stomatitis, although these are rare even in perverts, according to various statements.

Owing to its thorough lubrication, the esophagus is relatively immune to heat and

chemic irritants that cause corrosion, both of the mouth, pharynx, and stomach, and to ordinary inflammatory diseases. However, strictures do occur from such causes, and they demand: first, demulcents, notably pure mineral oil; secondly, gentle dilatation with the olivary bougie; thirdly, the consideration of operation, either of gastrostomy or of a radical, local, nature. Otherwise, the principal causes of obstruction are syphilitic and cancerous stricture, the pressure of some extrinsic growth, less commonly tuberculosis. But there are cases of indubitable organic stricture, in which corrosion and traumatism may be excluded, which show no signs of tuberculosis or syphilis, and in which cancer is indicated by the age of the patient and by exclusion, but who survive for many years. The writer has encountered several such cases, but cannot account for them.

Regarding the passage of instruments, it should be remembered that only gentle force should be used, that the existence of arterial disease, marked enfeeblement or any suspicion of aneurysm, and so on, is a contraindication, unless the need is urgent and full responsibility is accepted by the patient. Between the indication for instrumental dilatation and that for operation, the following general principle may be laid down, with obvious implication of diagnosis.

If the patient is young, in good general health, barring inability to swallow food, and dilatation is impossible or requires frequent repetition, or if the patient is limited to a liquid or nearly liquid diet, operate.

Between local operation and gastrostomy, the choice must be made according to individual conditions, with due regard to the difficulty and danger of blind cutting from within the esophagus, of forcible dilatation under anesthesia, and the almost inevitable ultimate leakage from gastrostomy-tubes. If the condition is fatal (as a rule implying cancer), and the occlusion is not absolute, it nearly always is possible to prolong life about as much by the resort to liquid food, pure mineral oil to lubricate, and gentle dilatation, as by gastrostomy.

Theoretically, and sometimes actually, gastrostomy permits of full nutrition and quite a protracted restoration of general health; while any degree of stricture requiring liquid food implies somewhat deficient nutrition—the patient gradually fails but does not literally starve to death. Allowing for the setback of even a brief and satisfactory gastrostomy operation, the usual impairment of digestive and absorptive power and the risk of operation itself, the choice is about even in a series of cases. As an ethical consideration, it should be borne in mind that the choice of a severe operation by a patient in a fatal malady, not curable medically, many times is in the hope of immediate death.

It should be remembered that many cases of esophageal obstruction are syphilitic, even in the absence of a definite history and contrary to probability in view of moral conduct. Innocently contracted syphilis is quite common. Then, too, it is quite possible that the antisyphilitic treatment exerts a favorable action and leads to an erroneous corroborative diagnosis in other granulomata, cicatricial contraction and possibly in some forms of true neoplasm. A negative Wassermann test is not reliable, especially if the patient has previously received mercurial treatment.

Hence, unless a clear exclusion can be made, it is a good plan, before resorting to severe measures or to a hopeless prognosis, to try antisyphilitic treatment. At the risk of presenting a mere personal opinion and one contrary to better authority, the writer would suggest using mercury, rather than iodides, at any supposed stage of the disease, keeping it up as long as it is tolerated, and reverting to it after suspension.

Various Other Conditions

Spasmodic Strictures are of rather common occurrence, with and without frank hysteria. For example. The daughter of a patient with genuine cancerous stricture presented this phenomenon. Spasm may also be a reflex from various lesions of the alimentary canal and its appendages, such as gallstones and appendix inflammation; not forgetting that a spasm may precede or accompany a genuine organic obstruction, at some distant point or in the esophagus itself.

Globus Hystericus generally is regarded as a mere subjective sensation, and does not cause dysphagia, except transiently, while, on the other hand, spasmodic dysphagia is not ordinarily attended by the globus symptom. The two conditions may, however, be more or less typically associated. It may be questioned whether globus is merely a sensation, as there is no reason why there should not be a ring of spasmodic contraction affecting segments of the esophagus in succession.

Either for spasmodic stricture or globus—aside from the ordinary hygienic and tonic treatment, suggestion, nervines, and so on—the main reliance is the bougie, using a large olivary tip. This not only includes the element of suggestion in a sufficiently disagree-

able way to discourage hysteric indulgence, but it acts as a massage of the muscle.

Dilatation, Diverticulum, Ulcer, Tumor, and so on. The diagnosis and treatment of the conditions here named involve radiography and fluoroscopy, the use of the endoscope, and decisions between local and operative measures which must be worked out for each case. Such conditions, except as they are involved in obstruction, are rare, and it is impossible to discuss them satisfactorily within the limits of this series.

Esophageal Rheumatism. While pain extending in a vertical direction in approximately the midline of the thorax may be caused by a great variety of affections, it is well to remember that dysphagia, not amounting to actual obstacle to swallowing, with a definite streak of fiery pain corresponding to the esophagus, either with distinct rheumatic symptoms in other parts, or in a patient with a rheumatic history, or rarely without such suggestive associations, may indicate esophageal rheumatism. Salicylates and alkalis, especially copious doses of sodium bicarbonate, if the urine is strongly acid (more than 75 degrees decinormal by the phenolphthalein test, as for stomach contents), will give relief if the diagnosis is correct. The throat may be sprayed with a 5-percent solution of salol in pure mineral oil, while 1-Cc. doses of oil of wintergreen may be given, three or four times a day, with as little water as possible, so as to permit a local effect.

Confusion With Other Affections. Deep-seated pharyngitis may lead to the diagnosis of esophageal stricture. Applications of a 5-percent solution of protargol generally will give relief in acute cases or in acute exacerbations of chronic cases. Tonsillar inflammation, with sagging of the tonsil into the deeper portions of the pharynx, a fishbone transfixing the tonsil or other foreign body or mass of caseous or calcified material in a tonsillar crypt may cause the same confusion. Treatment is obvious.

Hiccough and Aerophagia

These two neuroses represent different degrees of the same inspiratory reflex, the latter term being applicable when the negative pressure in the thorax leads to dilatation of the esophagus with an appreciable amount of air, which is subsequently expelled; the two phases alternating. Ordinary hiccough may be due to irritation of local origin, as from hasty swallowing, swallowing too large a bolus, swallowing too dry food, and so on. It is characteristic of alcoholic intoxication. As a reflex from gallstones and various other deep-seated lesions, or as the expression of a neurosis, it may be protracted and assume serious magnitude.

Anodynes, general anesthetics, faradization, galvanization, high-frequency current, tongue traction, constriction of the thorax, to prevent diaphragmatic action as far as possible, cocaine to the throat and nostrils, hot-pack, and hot enemata are among the variety of methods proposed for its relief. Sometimes no treatment succeeds.

Aerophagia—which must not be confused with the mere expulsion of gas from the stomach—is more typically a hysteric neurosis, and, while one may, apparently, find a source of reflex excitation, such as nasal polypi, eye strain, movable kidney, and so on, or may discover some general social or domestic cause of hysteria in general, the removal of the apparent local cause is, in the writer's experience, rather apt to prove unsuccessful and that of the general underlying condition difficult.

Nerve sedatives and the use of the esophageal bougie, as for spasmodic stricture, are helpful; but if the case is at all obstinate the real treatment must come from the patient, after a full explanation of the condition. For instance, the patient must understand that the trouble is a nervous trick and, if the patient knows anything about horses, it may even be worth while to state that it is precisely the same thing as "cribbing."

Fortunately, for convenience in directing treatment, aerophagia is one of the symptoms that usually does arise when the physician is summoned or consulted at the office. Fortunately, too, it virtually never assumes the serious degree of hiccough in the ordinary sense. The patient's attention is called to the volume of air expelled, and it is pointed out that no such amount could be expelled from the stomach, and that the inspiration and expiration (esophageal) of air is intermittent, showing that the air is alternately drawn in and expelled. While auscultating over the stomach for his own diagnosis, the physician tells the patient that the air is not heard entering the stomach (although, very rarely this may happen), and it is explained how the inspiration with closed glottis draws air into the esophagus.

After some repetition of explanations, coincident with the phenomena observed, the patient comprehends the rudiments of the physiologic process involved and can be trained to open the glottis (as by trying to breathe deeply and regularly with the mouth

open), when the esophagus is not inflated. With this detailed explanation of the mechanics of the process, training in respiratory hygiene and the realization that the whole condition is neurotic, the patient usually can be taught to control the reflex. Nevertheless, failure may occur in obstinate, stupid, and markedly hysteric patients.

Mechanotherapy in General Practice

By HAROLD HAMNETT, M. D., Stillman Valley, Illinois

THAT there is an increasing demand on the part of the laity and a decided desire among medical men for increased knowledge and application of mechanotherapy in the treatment of bodily ailments, is very little doubted. The tendency of our modern city business life makes it imperative that something beside drug administration and hygienic measures be used in treatment of overfed, underworked, nerve-diseased bodies met with in everyday routine practice. The sad phase of the whole situation is evidenced by the inability of physicians to prescribe definite and suitable muscular exercise in instances where it is indicated; and such dire lack of ability is directly responsible for the existence of a large number of socalled "physical-culture experts," who prey upon the unwary people in quest of relief.

I am fully convinced that there is a field for this efficient and natural method of treatment when in the hands of the right men; and those men should be medical men, too. And when physicians generally take unto themselves a complete or even only a working knowledge of anatomy and physiology of exercise, as viewed from the standpoint of physical education, there will be less criticism from lay people, better results from curative effort, and less liability of injury being wrought by inefficient and untrained "physical culturists," many of whom attempt treatment of ailments that belong alone to the educated medical men.

Commonly Suggested Forms of Exercise

"I believe you should walk more, or you might try riding horseback or buy Indian clubs and swing them; maybe that will make you feel better"—this usually represents the extent of the doctor's advice to his patient when convinced of the need of added exercise.

As to walking, that amounts to very little as an exercise; it will take you out into the open air, to be sure, but puts the burden of work upon the leg-muscles, which do not need it at all. Horseback riding is the lazy man's means of inducing a reduction of avoirdupois or securing increased skin activity, the horse doing all the work but getting no credit. The last suggestion—Indian clubs—is as nonsensical as the other two forms, because very few persons know anything about the proper use of clubs or dumb-bells, while the effect at best is very small.

It has taken a long time for members of the medical profession—many members, surely—to recognize the value of nature's method of maintaining a vigorous and healthy body, and that there cannot be a maintenance of or a return to a normal condition unless there is present vitality, endurance, and a firm musculature. This work is finding a larger place in the treatment of numerous ailments every day. Physicians are recognizing it as a potent factor and one to be reckoned with in their therapeutic service.

Medical Gymnastics

The term "medical gymnastics" refers both to passive and active work; the passive work being that of massage, and the active work that of body movements executed by the patient himself.

Many medical colleges are rapidly recognizing the possibilities of this "new old" idea, and it is finding its way into the course of instruction and study of the larger and advancing institutions.

Massage has been in vogue in many of the older countries for many years, and with a record of undoubted value. For instance, it was in use among the Chinese as far back as 3000 years, and the first knowledge of their work was given to us by the French a little over a century ago. The Japanese, Hindus, and Persians were adepts in its use, as were also the New Zealanders, while the people of the Sandwich Islands are using it to cure ailments in a crude, yet, quite effective manner.

Hippocrates, the Greek physician, recommended massaging very strongly and applied it himself, saying of it that "friction can relax, brace, incarnate, and attenuate; the hard

friction braces; the soft relaxes; much attenuates, and moderate thickens."

Herodi us, the founder of medical gymnastics and the teacher of Hippocrates, was a strong advocate of this mode of treatment. Julius Cæsar made much use of it, by having himself pinched all over daily for neuralgia. Pliny, who was troubled with chronic asthma, is said to have been "rubbed" in order to gain relief.

Celsus, the greatest and most eminent of all Roman physicians, was familiar with its benefits and employed it extensively to relieve headache and to restore surface circulation in fever. He said: "A patient is in a bad way when the exterior of the body is cold and the interior hot, with thirst, and the only safeguard lies in rubbing." Galen gave it his recommendation. Paracelsus, of Switzerland, 400 years ago used and taught massage. For a 200-year period France made much use of it, as did also the surgeons of England in the early part of the last century in cases of strains and joint injuries.

Intelligent Massage

With massage, the art of administration of muscular exercise should (and really does) go hand in hand. Of course, there are some socalled "masseurs" whose efforts at massage are deplorable and who give nothing more than indiscriminate and meager rubbings. The same is true with regard to administering physical exercise, there being no (or but little) understanding of bodily ailments influenced by it, and even less of ability to give intelligently the needed work. What I really have in mind is that accomplishment and efficiency that enables the medical man to appreciate the abnormal physical conditions amenable to muscular movements properly given, and a working knowledge of what to give to obtain the best benefits. Also, it is imperative that he know when and where to begin and when to stop.

It would be just as reasonable for a physician to tell his patient to go to a drugstore, take the first bottle he sees and swallow some of its contents, as it is for him to give directions to his patient for exercise, leaving the latter to depend alone upon his own knowledge and ability.

Essentials for Physical Therapy

Then, what is needed to receive an intelligent knowledge of this important phase of the "new materia medica?" This is my answer: It is necessary—

1. To know the body musculature, macroscopically and microscopically.

2. To understand the mechanics of each muscular group and the individual working-muscles.

3. To recognize the need of physical training or medical gymnastics.

4. To be able to know his "mechanotherapeutic materia medica," that he may prescribe bodily movements with as much detail and painstaking accuracy as the most conscientious physician does from his drug list.

5. He must have knowledge of the physiology of exercise, and should *be able* rightly to oversee it, even though it be referred to a person not a medical graduate.

Where to Get Instruction

As a basis for beginning, I might say that a fairly good foundation was laid about sixty years ago by Mr. Robert J. Roberts, of the Boston Y. M. C. A. (and who, by the way, is spoken of as the "father of Y. M. C.A. physical education"), who said that all exercises should be: (1) safe; (2) short; (3) pleasing; (4) easy; and (5) beneficial. These demands are all applicable to the four phases of physical training; namely: (1) corrective; (2) hygienic; (3) educative; (4) recreative.

The use of muscular exercise as a curative or preventive measure requires a fair understanding of the method of administration and the knowlege of the reasons why specified movements are given. Otherwise it loses its value as an adjunct to the therapeutic equipment of the physician.

The need of the modern business man is not that he possess a giant physique or enormous muscular strength or sinewy muscles, but that he have stamina and vitality and endurance sufficient to enable him to stand the fearful nervous strain imposed in his mad pursuit of a livelihood or the rolling dollar.

The altered living-code of the human race of today—at least that portion of it called the urban population—makes it imperative that some means be resorted to to offset the inroads on health of those persons sedentarily employed.

"By the sweat of your brow shall ye earn your bread" is the edict given forth in the biblical times; and it is a good one, too. There are multitudes who eat the bread without the giving forth of any perceptible perspiration, but who also fail to enjoy it. The human body needs to be kept well and healthy, as originally intended by its Maker; and, since we are denied the privilege of being "hewers of wood and drawers of water," something artificial must be substituted.

And right here is where the rightly equipped medical man fills up the gap.

Factors in Physical Deterioration

When we stop to consider that everything is being done today to save applying muscular energy by installing machinery and electrical devices, we may in a measure realize the opportunity confronting the people to undergo physical deterioration. There are the telephone, the telegraph, elevator, messenger service, street-car, automobile, wonderful, almost human, farming implements, gas as fuel instead of wood, electricity applied in every conceivable manner, and the unnumbered muscle-saving devices extending to shops, factories, foundries, rolling-mills, brickyards, and all the industries. And what results from all this? Less demand made upon the musculature on the part of the male; hence, fewer foot-pounds in real work done, with, consequently, less of physical development.

There is that high degree of deterioration and impairment of body-functions because of all this modernism, that the general health suffers through loss of that body- or tissue-tone necessary to the maintenance of organic equilibrium; and before the individual realizes it he is over the crest and on the downward road; or, the demand for muscular work is so greatly lessened as to favor the piling on and accumulation of fatty tissue, which, unless checked or taken care of in some way, eventually assumes pathologic proportions.

Surely, the enlightened and up to the minute physician realizes that drugs can play a very minute part in the treatment of such conditions and that nothing will suffice except the return of all organs to their normal functioning; and that, where physical exercise is indicated, it will have a most telling and pleasing effect in due time.

Physical Therapy in Disease

It is possible to produce gratifying results in many pathologic conditions. The writer once reduced the abdominal girth of a man exactly 11 inches in forty days, giving forty-one treatments of massage and carefully prescribed physical exercise. The weight of persons is reduced by from 10 to 50 pounds; and this not only means the loss of surplus flesh, but a strengthening of the body-tissues, a cleaning out of the sewage, better skin activity and color, improved bowel action and circulation giving more efficient service.

After all, what is to be done to get the coveted results?

The ideal way, and the one I employ when the necessary equipment is at hand, is as follows:

Get a complete history of the patient and his family, particularly with reference to whether of rural or urban birth and life. The usual examination, by inspection, palpation, percussion, and auscultation. In getting further data for guidance, we may secure girth, lengths, breadths, and lung capacity. The external measurements usually mean very little and afford us but a slight clue. Anyhow, we might measure a dead body and get similar data; but, the vital and telling figures can only be acquired by a record of the strength, endurance, and vitality of the patient.

How is this end to be secured? A power-recording apparatus of considerable bulk is called the dynamometer (strength or power measure). This machine makes possible an accurate record of the actual strength and vital qualities of the large muscular groups and those muscles working largely independently, the results of muscular effort being recorded and shown upon a dial, coming directly through a column of mercury. Thus, such a result gives to you a knowledge of what the individual can do; not merely what he "looks" The test is, how many foot-pounds of work can he do as a total in this uniform and entire test.

After acquiring all of this information, to what use can it be put? Charts can be made (or bought ready made) on which it is possible to record graphically the measurements, including weight, lung capacity, and strength tests, by setting down the figures in their proper spaces and then platting the chart with tracings going from figure to figure. The nearer normal an individual is, both in measurements and the strength tests, the more horizontal will be the platted line; and, conversely, the more abnormal he may be in these, the more zig-zag will be the charted line.

To carry out this work scientifically, the prescription of exercise should be made up according to the physical deficiencies upon the platted chart. These charts, by the way, are made up as the average of 10,000 measurements made upon men of the same age and are readily and fairly applicable to the average 18 year old person or to any other age up to 40 years.

About once each month new measurements and strength tests should be given, to find the progress made. If "O. K.," let it continue; if wrong or inadequate, then a read-

justment of the prescription should be made. By replatting the chart with red ink, to indicate the second examination, and with blue for the third, and so forth, a compact picture showing the progress made is at hand.

Iodine in the Treatment of Tuberculosis

By H. J. Achard, M. D., Asheville, North Carolina

IF THE distrust of empiricism and the demand for laboratory approval which arose, especially in the Vienna school, in the second half of the nineteenth century brought forth as their first fruit a therapeutic nihilism which, most fortunately, never found widespread adherence among general practitioners, the same underlying exact and scientific methods of research more recently have become the agents vindicating the results of empirical research in many unexpected ways, and, in addition, have restored to scientific credit and approval remedies, upon which for many years, practitioners had depended in their clinical work, despite the fact that the same had been frowned upon and decried by laboratory investigators and by theorists.

The Restoration of Iodine

One of the remedies of this category is iodine. Introduced, in 1829, by Lugol (in the form of a solution that still bears his name), for the treatment of "scrofula," this halogen has been administered, especially in glandular (scrofular) affections and in syphilis, with more or less success and approval, even in the face of the many instances of iodine intoxication (iodism) that occurred. The many combinations and modifications of iodine that have been, and constantly are being, proposed bear witness to the favor with which this drug is regarded; but also to the difficulty encountered in obtaining the desired results free from undesirable by-effects from its administration.

I will not take up space with a review of the quite extensive literature upon the subject, however great the interest attaching. Suffice it to say that research in the most recent years not only has afforded us an explanation of the action of iodine (at least in infectious diseases, and more particularly in tuberculosis), but these labors also apparently have aided in solving the problem of the best form of administration. While other clinicians may prefer solutions of iodine plus iodide of potassium, or perhaps one or the other of the modified iodine preparations on the market, as presented in so many forms by the manufacturing chemists of Germany, I, personally, have seen the best results, with the least frequency of iodism, from the use of iodized calcium. It seems that that preparation is the most useful one which supplies the iodine in a form in which it is most readily liberated, because, apparently, the iodine is most effective therapeutically in the nascent state.

Iodine as an Antiseptic and Disinfectant

Recently the decided antiseptic and antibacterial action of iodine has led to its general use in surgery, not only as a disinfectant for the field of operation and for the hands of the operator, but also for application to infected wounds, to inflamed surfaces (tuberculous peritonitis), to abscesses, bone and joint disease, and the like. Its value in these conditions depends upon its marked selective affinity for, and destructive action upon, a large number of pathogenic organisms, while it does not possess this affinity for blood-cells.

While thus the efficiency of iodine externally as an antiseptic is well established in surgery, it has not been found possible to introduce iodine into the blood in a free state, and in sufficient quantity, to act as a disinfectant, without setting up those disagreeable manifestations of iodism that in extreme cases might even become dangerous to life. The principal difficulty hitherto has been to find a preparation of iodine suitable for internal application that would not cause irritation or would not form iodides in the organism, the latter dissolving only with difficulty.

The Experiments of Curle

In reporting his experiments in this direction, David Curle (*Practitioner*, Dec., 1912, vol. 89) points out that potassium iodide, while extremely rich in iodine (containing 75 per cent), dissolves in its own weight of water, and in consequence is rapidly absorbed into the blood and quickly diffused. Unfortunately, these favorable properties are counterbalanced by the fact that potassium iodide, as a salt, is not an antiseptic and that its iodine content can become germicidal only by being set free. The problem, therefore, that presented itself was, how to set free the

iodine from its potassium salt and, yet, avoid iodism.

Potassium and iodine have an intense affinity for each other and their union is so close that dissociation does not occur even by heating beyond redness. Moreover, potassium is capable of uniting with three times the amount of iodine present in potassium iodide, the resulting compound being the triiodide. If, therefore, potassium iodide and free iodine are present together in solution, the potassium iodide will prevent the iodine from being vaporized.

In order to liberate the iodine from its close union with potassium, Curle uses chlorine as a reducing agent. Both iodine and chlorine are disinfectants, and the by-product of their interaction, potassium chloride, is innocuous; in fact, a small amount of this latter salt is essential to maintain the kinetic energy of the heart. In this reaction, the potassium, which has a greater affinity for ozone than for iodine, unites with the ozone that has been formed from the oxygen of the air by the hemoglobin, and thus the iodine becomes available by being set free. Curle has found that 10 grains of potassium iodide yield, at the end of four hours, 3 grains of free iodine, with 6 grains of potassium iodide remaining to keep it in a solution; and this fluid is germicidal.

The tendency to iodism is counteracted by the salivary glands and by the action of the ozone in the blood. Since iodine is liberated more rapidly in acid than in neutral solution, a diminished alkalinity of the blood may cause iodism; which, however, disappears under large doses of sodium bicarbonate. In some persons, an idiosyncrasy to iodine exists, which renders it advisable not to prescribe this drug at all in their case. In another class of persons, the administration of iodine is followed by a rapid, small pulse, pyrexia, loss of appetite, headache, and depression. In these also the drug had best be avoided.

In practice, Curle prescribes 30 grains of potassium iodide, this being the amount that can be transformed by the blood into an actively antiseptic solution by virtue of the limited amount of chlorine in solution in the circulation. He gives potassium iodide in conjunction with from 10 to 20 grains of potassium bicarbonate dissolved in a copious draught of water, to be taken after breakfast.

Formula for the Chlorine-Water Used

The chlorine solution, as here employed, is made by mixing, in a dry 24 ounce bottle, 60 grains of potassium chlorate in fine powder, 120 minims of strong hydrochloric acid, and, after stoppering and gently swirling until effervescence has ceased, adding cold water, little by little, to make up the 24 ounces, corking and violently shaking the bottle after each addition of water, thus dissolving the greenish chlorine fumes filling the vial.

Four hours after the dose of the potassium iodide taken after the midday meal, 1 ounce of the foregoing chlorine water is taken in lemonade, a second ounce is taken two hours later, and a third two hours after the second dose, and soon after the evening meal. If the patient can bear it after the first day, a fourth dose may be taken, or else the three doses may be made slightly larger (say, 1 1-3 ounce each). For children, hydrogen-dioxide solution may be used as a reducing agent in place of the chlorine, to the taste of which latter they object. Even under the daily repetition of this dosage of potassium iodide, iodism does not occur.

Concerning his clinical experience with this treatment, Curle records very satisfactory results, especially as regards improvement in the conditions in pulmonary tuberculosis complicated by mixed or secondary infection.

"Sterilisatio Magna" in Tuberculosis

Whether consciously or unconsciously, therapeutic endeavor always has been directed toward the destruction of the causal agents of disease. The modern means aiming at this end are embraced under the name of chemotherapy, which endeavors to produce a *sterilisatio magna* of the infected organism.

As yet the means by which we can secure such a complete destruction of pathogenic organisms are very few. Naturally, we think of mercury, and of arsenic in the form of salvarsan, in infection with the spirocheta pallida; of arsenic, in the trypanosoma diseases; of quinine, in malarial diseases. In tuberculosis, iodine, creosote, ichthyol, cinnamonnic acid, besides many other remedies have been employed—without the desired effect, it is true, but, yet, we now know, with a considerable degree of reason, for those agents undoubtedly are capable of aiding the organism in its task of destroying the tuberculous virus, in producing an autosterilization.

The resistance of the organism against the tubercle bacillus, which is sufficient to protect most people against tuberculous disease although they have acquired an infection, is a rather complicated process. The re-

searches of the last few years have shown that neither the humoral resistance postulated by German scientists nor the cellular resistance (phagocytosis of Metchnikoff) is sufficient to explain the facts, and it is largely owing to Wright's investigations that the problem has been elucidated.

The uninjured tubercle bacillus, during its life-cycle, secretes into the tissues metabolic products that are toxic. This bacillary toxin, together with other substances that are soluble in the tissue fluids, forms a mixture which may be called the "body tuberculin." This substance differs from Koch's old tuberculin by the absence of the culture fluid. The body responds to the presence of this toxin by forming antibodies, or reaction-products; namely, antituberculin, which neutralizes the toxin; and in this manner the results of the presence of tubercle bacilli are counteracted.

Against the tubercle bacillus itself, the first defense of the body lies in the lymphocytes which, through active chemotaxis, collect around the invading tubercle bacilli. These lymphocytes carry a fat-splitting ferment capable of dissolving the waxy fatty capsules of the bacilli, thus liberating and throwing into the body-fluids the proteids of the bacillus itself, which thereupon act as antigens, that is, they stimulate the generation of reaction-products of the nature of amboceptors. Then, in consequence of the action of the amboceptors, a gradual breaking up of the bacilli, by bacteriolysis, occurs, and eventually they are absorbed.

In this connection, it must be kept in mind that the amboceptors are of various kind, corresponding to the various constituents of the tubercle bacillus, each of which bacillary toxic constituents acts as a "partial antigen" and is neutralized, or opposed, by its own specific partial amboceptor.

Empiricism Vindicated by Science

This brief description of the mechanism of organic defense against the invasion of tubercle bacilli aids us in explaining why certain substances that once were in vogue and in great favor in the empirical treatment of consumption actually proved effective. Thus, it can be shown that the derivatives of creosote detoxicate the metabolic products of the tubercle bacillus and that iodine stimulates lymphocytosis, that condition of such great importance for the breaking up of the waxy-fatty capsules by which the tubercle bacilli are protected against injury.

According to Rothschild (*Deut. Med. Woch.*, 1913, No. 25), the best form of chemotherapy of tuberculosis consists in the appropriate administration of iodine. It is the triumph of true empiricism, which has always insisted upon the value of iodine in tuberculosis. The deliberate systematic employment of the drug in this disease we owe to the Italian school.

Lymphocytosis the Keystone

The administration of iodine, whether this be internally, subcutaneously or by inhalation, invariably is followed by lymphocytosis; a condition, as already pointed out, constituting an important means of defense on the part of the organism against infection with the tubercle bacillus. When, through their lipolytic (fat-splitting) ferment, the lymphocytes have acted upon the waxy-fatty capsules of the tubercle bacilli, the latter are so injured that they no longer can repel the phagocytes, but, rather, actually attract them, through what technically is known as chemotaxis; and then the invading microbes are engulfed and digested, and as a result their various proteids are set free.

Solis-Cohen was the first investigator to observe that in a tuberculosis that is taking a favorable course lymphocytosis is present. Thus, a decided phagocytosis is a necessary occurrence, and Rothschild claims that sputum-phagocytosis is an important index for prognosis, since phagocytosis is the end result of the process begun by the lymphocytes; for, eventually the broken-up tubercle bacilli are phagocyted and destroyed. Solis-Cohen has shown the value of iodine in a series of cases in which its administration was followed by recovery. In the patients who did well, the favorable progress could be checked by the increasing phagocytosis of tubercle bacilli in the sputum, less and less being found extracellular.

For the problems of chemotherapy, according to Ehrlich, the old dictum, that substances can act only in solution (*corpora non agunt nisi soluta*), has to be modified so as to read, *corpora non agunt nisi fixata;* that is to say, only those substances can exert a destructive action upon pathogenic microorganisms that have for them a certain attraction or affinity and tend to fix them.

Chemical substances that are thus attracted to the bacterial cell are designated as parasitotropic. In order to exert their destructive action upon the invading parasites, it is necessary, of course, that the chemicals in question come in contact with them. While this is a simple matter in, for instance, malaria, in which the infectious virus is found in the circulating blood—and while

thus the prompt effect of quinine finds a ready explanation—conditions often are quite different, and especially in tuberculosis a *therapia sterilisans magna* presents unusual difficulties.

In spite of many assertions to the contrary, it has been shown definitely in a great number of exact experiments that tuberculosis is not usually a bacillemia and that tubercle bacilli are only exceptionally found in the circulating blood. Moreover, the tuberculous focus being excluded from the circulation by obliteration of the contained blood and lymph vessels, remedies that are administered in the hope of obtaining a direct germicidal effect are not usually carried into the tuberculous focus, and consequently do not come in direct contact with the tubercle bacilli. Yet, a chemical which is to destroy the tubercle bacillus, should be one, it would seem, that will enter readily into the avascular tuberculous lesions and, if possible, pass into or accumulate in such tissues more than in normal tissues.

As a matter of fact, it has recently been shown by H. Gideon Wells, of Chicago, that iodine is taken up by lymphatic tissue primarily and also by tuberculous tissue, and that it accumulates there to a greater extent than in normal tissue. Unfortunately this element does not seem to be stored up in excess in such tissue, being eliminated upon cessation of the administration of the remedy. Still, the fact that tuberculous tissue exerts a special attraction for iodine is of value.

The Selective Action of Iodine

This "almost selective" action of iodine upon the tuberculous focus is explained by Cantani by his observation, that iodine acts directly upon tuberculin by neutralizing the pyogenic toxin, but leaves the other toxins unaffected.

We have seen that in the tuberculous organism a substance is formed which may be called the body-tuberculin, and in so far as this produces fever and other disturbances, unless neutralized, the favorable effect of iodine upon the fever of tuberculous persons is explained. This action of iodine was first pointed out by another Italian observer, Cervello. This claim was supported by an observation of Cantani, to the effect that tuberculous patients who had been subjected to intensive iodine treatment did not react with fever to tuberculin. This antitoxic action of iodine is also manifested in the experience that Bier's hyperemia treatment can be used far more successfully if iodine is administered simultaneously.

These important studies of the action of iodine upon the tuberculous organism justify its extensive administration in tuberculosis, except when it gives rise to iodism and leads to an excessive stimulation of the bronchial mucosa.

Which Is the Best Form of Iodine?

The form in which iodine is administered may vary within some wide limits; however, the intravenous administration advocated years ago does not appear to have gained many friends. Aside from the ordinary internal administration, the drug frequently is given by inunction and by subcutaneous injection. More recently the combined treatment with tuberculin and iodine has been advocated.

O. Müller, in tuberculosis of glands and in tuberculous pleurisy, employs an ointment having a composition as follows: 9.98 per cent neutral fats, 46.29 percent lanolin, 1.34 percent free iodine, 26.69 percent water, 7.23 percent medicated soap, 1.55 percent sodium iodide, 4.92 percent organically bound iodine.

The Italian surgeon Durante has advocated, since 1876, the hypodermic use of iodine, especially with the addition of guaiacol, which latter lessens the pain. He claims for the drug the first place in the treatment of lymph-gland tuberculosis. The best results are obtained in torpid forms of tuberculosis and in surgical lesions, while in phthisis the results, according to him, are not uniform; being better in incipient cases, while sometimes bad in advanced ones.

Cantani administers iodine subcutaneously in the form of the following solution:

Iodine, c. p.	Gm. 1, 2, or 3
Potassium iodide	Gm. 9
Distilled water	Gm. 25
Glycerin, c. p., enough to make	Gm. 100

Of this, 1 cubic centimeter (15 drops) is injected daily for ten or fifteen days; 2 cubic centimeters daily for fifteen days; then 3 cubic centimeters daily. These injections are painful. In surgical tuberculosis, they lower the fever, the local symptoms disappear, the exudate is absorbed, and improvement in the general condition is observed.

On the strength of the antitoxic action of iodine, Cantani suggests the combined use of tuberculin and iodine in phthisis.

Bonzani reports the cure of tuberculosis of

the tongue, by means of local injections, for four days, of this solution:

Iodine, c. p.	Gm. 0.01
Potassium iodide	Gm. 0.02
Distilled water	Gm. 1.0

This in addition to two general injections composed as follows:

Iodine, c. p.	Gm. 0.04
Potassium iodide	Gm. 0.08
Guaiacol	Gm. 3.00
Olive-oil	Gm. 40.00

Jos. Turman recently has reported experiments in which he attempted to obtain an iodine effect limited to the tuberculous focus, by means of a chemical combination of iodine and the proteids of the tubercle bacillus, thinking that the local action would occur through the special affinity of the tuberculous focus for the iodine constituent of the remedy. In his animal-experiments, Turman observed an undoubted favorable action upon guinea-pigs, in that the treated animals survived infection from two to four months, while the controls died after three or four weeks.

Kapsenberg ground tubercle bacilli, in a mortar, in chloroform, enough of the latter being added to yield a homogeneous emulsion. This latter will, on standing, separate into three layers, of which the upper, yellowish, clear fluid probably contains the water- and glycerin-soluble constituents of the tubercle bacilli and possibly also a little tuberculin. This fluid takes up the iodine and yields with it a very intimate combination, capable of exerting an injurious action upon tubercle bacilli. Therapeutic experiments suggest further trials.

Rothschild also strongly advocates the combination of iodine and tuberculin, using the former in the form of Lugol's solution, which he found to act well in combination with tuberculin.

It is of interest to mention, by the way, that pilocarpine, which formerly was frequently employed in tuberculosis, also acts by stimulating lymphocytosis, and that in certain cases it may be substituted for iodine.

These various researches on new forms of uses for iodine in tuberculosis were not made with a view to stimulating their adoption, as yet, but rather to show that this time-honored remedy promises well to come into its own by the very means which formerly were employed to oust it from phthisis-therapy. For the present the forms of iodine which have given us good service in the past may be continued with confidence, and, when definite results have crowned the efforts of the many investigators who are endeavoring to render the iodine treatment of this disease more fruitful, I shall again give an account of their outcome and hope then to be able to communicate even more interesting and helpful data.

The Right To Live

Ey George F. Butler

I do not know the name they give
To this dear flower beneath my feet.
I only know that it is sweet
And lovely—and I let it live.

I do not fear the student's wit,
But I don't take what I can't give;
I let the meanest creature live,
Since God hath given life to it.

May Science's learned clan request
Great nature's vivisection —I
I feel the knife that cuts, and cry;
They are like me God's image blest.

Electronic Diagnosis

The Electronic Theory in the Interpretation of Disease

By George Starr White, M. D., Los Angeles, California

Director California College of Physical Therapeutics; Fellow American Electrotherapeutic Association

THE intelligent builder knows the material with which he builds, as well as the plan upon which he wishes to construct his building. If we, as physicians, could know more of the development and physiological processes of each organ of the body and then of the body as a whole, we could much more intelligently treat any disease.

It is generally conceded that the human body is an aggregate of myriads of cells, estimated in number at twenty-six million five hundred thousand millions. Each cell, as we now know, has its own function to perform. Each cell is a part of a cell community and works for weal or woe.

The more we study the development of cells, the more we are impressed with what is, electrically, termed *polarity*. (As we have no better nomenclature at our command, we will employ electrical terms in speaking of vital force.) No one can witness cell division by mitosis under a powerful lens without thinking of the appearance of iron filings in a magnetic field.

The Electrical Analogy

As we look at the development of any species of animal or vegetable life, we find that one cell divides into another cell, and that again into another. If there were not some controlling influence over these cells, they would all develop in the same way and the organism would be all of a single tissue, without any differentiation between the ectoderm, mesoderm, and endoderm, or any of the structures developed therefrom.

In our modern way of thinking, the electron is the smallest particle from which the atom is formed, and in turn the molecule is formed from the atoms. Each cell seems to be an electrical entity with positive and negative poles, and that entity is the electron. As these electrons are arranged in a specific manner, so is that atom arranged to have certain lines of force. As the atoms in turn form the molecules it is probable that they, from the arrangement of poles and magnetic fields, are created in a definite internal arrangement according to the arrangement of the electrons. Inasmuch as the molecules form the cell, then those cells would be electrically and magnetically arranged according to the formation and arrangement of the electrons.

As cells divide and develop one by one, they appear to be limited in their development by electrical or magnetic conditions existing in their internal formation. This could be on the order of a multitude of galvanic cells connected either in series or in multiple, so arranged that when the amperage was of a certain degree the voltage would be modified, or conversely. Considering each cell as a great multitude of electric cells, this theory seems plausible.

By this arrangement, when a certain amount of electric force was exerted or a certain quantity generated, the electrons would be affected in such a way that they would form different kinds of structure or different forms of the same structure. In this way we could formulate a reason for the definite manner in which cells develop. Sometimes we have monstrosities or malformations. These might be caused by some electrical change having taken place at the time of development, bringing about forms in one species that are found in another.

If we reason from the supposition that all matter started from a single form of atom or electron, the theory of evolution can be built up entirely on the electronic hypothesis. If, as some physicists think, the electron is always associated with an unvarying unit-charge of negative electricity revolving within a sphere of positive electricity, then all atomic characteristics can be satisfactorily explained.

As the universe is made up of electrical systems and, as many believe, our very atmosphere and form of life is governed by electrical changes in this universe, it is reasonable to believe that the animal body is made up of electrical systems.

The molecule would simply be an aggregation of electric batteries. The tissues in turn would follow in the same order as the molecules, since each tissue is an aggregate of similar molecules. The organs would follow in the same order as the tissues, inasmuch as they are aggregates of the tissues and deter-

mine the character of the work. Now, the system is an aggregate of organs having co-related functions.

Electric Equilibrium and Health

It would hardly be compatible that one entire body were composed of one electric system; rather, on the contrary, it would seem as though the body of any animal were made up of separate electric systems or magnetic fields.

If this hypothesis be correct, the body, to be in health, must be in electric equilibrium. As soon as any one system in the body is in any way deranged so as to cause a change of polarity, that would mean disease in that particular system. In the same degree as that subsystem were deranged, so would the whole system be out of balance. If the polarity of any tissue were changed, disease or unrest of tissue must take place.

During the evolution of matter from vegetable to animal and from animal to human, electrical centers have, apparently, been developed to control automatically the several subsystems, or electric segments.

At first, we have the nucleus of the cell to govern the cell itself, then a system of cells is governed through nerves or connecting wires by ganglia, or small nerve-centers. As evolution progressed, larger nerve-centers governed the subnerve centers, until eventually we have what is called the brain to govern the ganglia, or substations, throughout the organism.

If we accept this theory of electronic unity, it will be much easier for us to conceive the idea that the chromosomes in the cell are an aggregation of electrons representing every other cell in the organism. In no other way can we explain heredity or the laws of eugenics —each species having its own characteristic and number of chromosomes.

There are different polarities in different parts of the body. Some parts of the body are affected more by the negative pole while others are affected more by the positive. If a positively charged part of the body become negatively charged, that part is diseased. If it become neutral, we also have a state of physical unrest.

If there is any way by which we can prove that the body is made up of aggregations of electrical systems or spheres of radioactivity, we shall draw nearer to the etiology of disease as well as its relief.

It has been proved that certain rays of light cause the body to give off more or less electrical force. It has likewise been proved that other rays of light cause sedation. From these proven phenomena, it seems as though the body were composed of radioactive segments and controlled by them. Since different parts of the body give different forms of polar energy, it follows that their spheres of radioactivity vary.

In order to ascertain the polarity of any electric charge, we employ a bar magnet. If the charge be negative, the negative, or south, pole of the magnet augments the charge, while the opposite, or north, pole of the magnet would neutralize it. In the same way, we can prove the positive charge of electricity or energy from the body or from any substance.

The Stomach Reflex

In the fifth edition of Dr. Albert Abrams' work on "Spondylotherapy," details of the following new concepts in diagnosis are fully set forth.

Following the teachings of Doctor Abrams, we found that the stomach dulness can be elicited when a horseshoe magnet is so placed in front of the stomach that the lines of energy go off in a straight line to the stomach. This energy given off to the stomach-muscle is powerful enough to influence the stomach when an 8-inch horseshoe magnet is held from 8 to 12 feet away from the subject being percussed.

Instead of the horseshoe magnet, energy from the heart can be used by conducting it through wire, one end of which is placed over the heart and the other over the stomach. The same obtains if the finger from the negative side of the body of another person is pointed toward the stomach. In a less degree, the same effect is obtained by placing one end of the conductor over the seventh cervical vertebra (vertebra prominens) or over other definite areas, and the other end over the stomach region of the same subject or of another subject; provided the subjects are grounded.

If the energy carried to the stomach-walls from the radioactive centers possess polarity, it is inhibited by using only the opposite pole of the bar magnet. (Dulness is dissipated both by positive and by negative poles if the energy be neutral, but if it have polarity the dulness is dissipated with the opposite pole of a bar magnet.)

Electronic Diagnosis

Now we will briefly consider the diagnosis of disease by means of the electronic method. (Before diagnosing any disease by this

method, the patient should have his bowels thoroughly cleansed with a saline purge.)

It has been proven by a great many subjects that one suffering with syphilis gives out a neutral, or isoelectronic, form of energy from the liver, spleen, spine, and arterial system, which will produce gastric dulness. If the patient have no syphilis, no stomach dulness can be conducted from these regions.

If the patient have tuberculosis, the polarity of energy is also neutral and is elicited from the sites of the tuberculous lesions. If the tuberculous lesion be in the liver, spleen, spine or in connection with the arterial system, it might seem difficult to differentiate between syphilis and tuberculosis. One method is, to give the patient mercurial inunctions for several days and then test him. If the lesion be syphilis, all syphilitic reactions will be dissipated. If it be tuberculous, there is no change in the reaction. Another method of proving tuberculous or syphilitic reactions is by using colored screens shedding colored light on the patient. If the lesion be tuberculous, a yellow screen dissipates the stomach dulness. If it be syphilitic, a blue screen dissipates it.

By the electronic method of diagnosis, the site of the original focus of infection by syphilis can easily be demonstrated. This has been proven by anointing the site of the focus of syphilitic infection, thus found, with mercurial ointment for a few days, when all syphilitic reactions disappear.

By this method of diagnosis, the reaction to pus is positive and is elicited from the focus of suppuration. Appendicular disease can be diagnosed when it is impossible to diagnose it by any other method.

In the same manner, we can diagnose carcinoma, as the polarity is negative and the energy is obtained from the site of the neoplasm, even though it is just beginning. These diagnoses have been made many times before operation and proven by the pathologist to be correct. Dr. George O. Jarvis, of Ashland, Oregon, has summarized a large number of cases which have been brought to operation by aid of the electronic tests, and the operations have confirmed the diagnoses thus made.

A Key to the Cure of Chronic Diseases?

By the same method, nearly all infections and chronic diseases can be diagnosed, but those named are among the most important, as they can be discovered in the early stages when by other methods it is practically impossible. Some experiments are now going on which, if proven after a large number of tests to be as successful as they now appear, will give a new method of curing most chronic diseases.

The electronic method of diagnosis and treatment may mean that we have found a method of curing many diseases that have been considered incurable. The fact that the polarity of the radioactive energy is changed proves that we must bring about normal polarity before the disease can be eradicated.

This method has opened up a new field for research in diagnosis and in treatment. Now the etiology of many obscure complaints can be determined and we can see reasons for many cures and for many remedial measures that have been employed empirically. They can now be applied in a scientific way and with a definite object in mind.

The electronic methods of diagnosis have been extensively tried by some of the most trustworthy medical observers. Thus, Dr. E. M. Perdue, who is in charge of the largest laboratory for cancer-research in America, refers to the subject as follows:

"The work of Abrams on human energy is so exact, so scientific, and so true that it is already working a revolution in the practice of the healing art. In our University, instruments of precision have been constructed by which we demonstrate, measure, control, and test the intensity and polarity of the emanation of human energy. These methods have been confirmed by chemical analysis and microscopical examinations of the tumors."

How the Work Is Done

In carrying out this work, the technic must be exact. For some, it is very difficult to obtain the "stomach dulness"; still, by observing certain rules, the average person can obtain it with proper appliances, if he cannot by means of the finger-finger method. The method we follow is that of Doctor Abrams.

We first percuss out the lower border of the liver and mark it with a dermatograph. We set up, as above stated, magnetic or radioactive energy at right angles to the stomach-muscle. We then begin to percuss, and the stomach dulness will generally be observed at once. Bone or celluloid thimbles, loaded with lead, and worn both on plexor and plexímeter fingers will, sometimes, greatly aid in bringing out the differentiating sounds.

For carrying the energy from one point to another, one must use electrode-holders so constructed that only the electrode can come

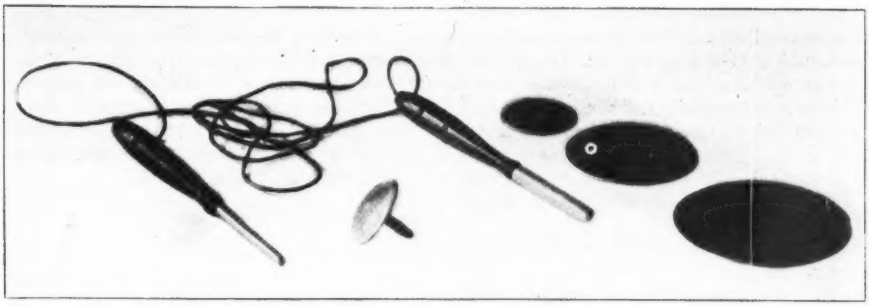

Fig. 1. Showing electrodes used in diagnostic work

in contact with the body. To accomplish this, we have had special electrode-handles made, so arranged that the connection is inside the handle, being insulated in a manner that has been proved to be effectual. See Fig. 1. At one end we use a disc electrode so as to cover a larger part of the body when looking for diseased areas. The other electrode has a small area for locating very small lesions, such as a beginning tuberculous lesion in the lungs or any other locality; an inflamed gland, even if very small; or a beginning carcinomatous degeneration of cells.

We have also invented special electrodes so constructed as to augment radioactive energy. Some individuals radiate much less radio-energy than do others, and some stomachs respond much less readily to ethereal waves of force. Our device helps to overcome these contingencies.*

For eliciting the dulness by other than the finger-finger method a pleximeter that is nonmagnetic is desirable. We have found that the pleximeter shown in Figure 2 is very well suited to this work. The metal part is made of brass or some other nonmagnetic material, bored out in the concavity where the plexor hits it, and that portion filled in with lead. It is all nickel plated.

*The set of energy conductors shown in Figure 1 is made of aluminum and the handles are lined with aluminum. These are now manufactured by the McIntosh Battery and Optical Company of Chicago.

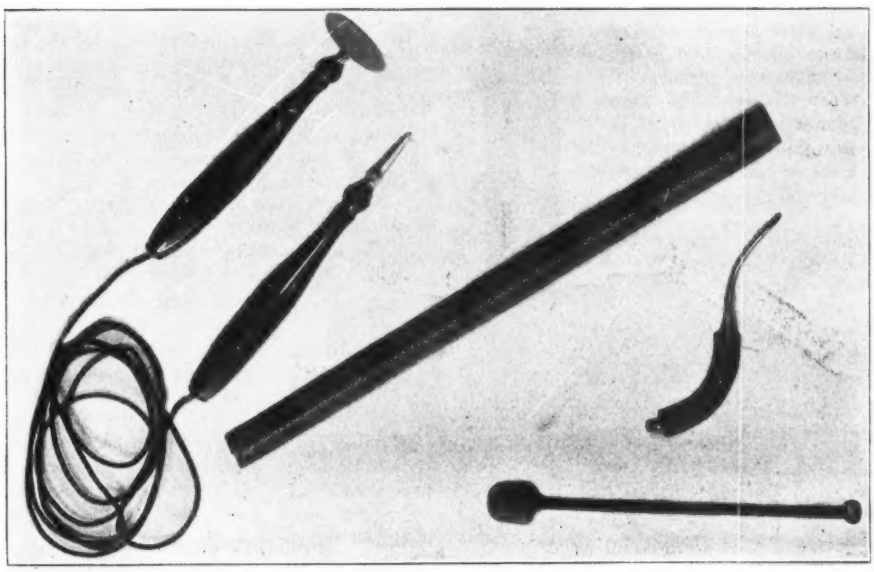

Fig. 2. Electrodes and Energy Measure

and over the portion which comes in contact with the body and the plexor, a special kind of rubber tubing is placed. It will also be observed that the rubber sheath does not come to the extreme end of the metal.

For the plexor, a light device is required. (Fig. 2.) The percussion stroke must be very light. It requires much practice to become proficient in diagnosing beginning lesions.

In Figure 2, is also shown an energy measure. It is a rule divided into millimeters and centimeters, with a groove running parallel with the rule on the side of the gradations. This is used as follows:

Two sets of conducting cords and electrodes are necessary. The pointed electrode of each conductor is placed in contact in this groove. One disc electrode is placed over the neoplasm or beginning inflammatory site and the other over the stomach. This acts as a closed circuit. If the inflammatory process be of a low order, the two points in the groove of the rule must be in contact or nearly so to produce the stomach reflex. If it be of a very acute or active process, the points may be separated from one another. The distance they may be separated and still produce the stomach reflex is recorded on our diagnostic card. From day to day, as the inflammatory process recedes, the ends of these conducting cords must be brought closer together. Thus we can tell whether a tuberculous or other lesion is actively increasing or diminishing in severity.

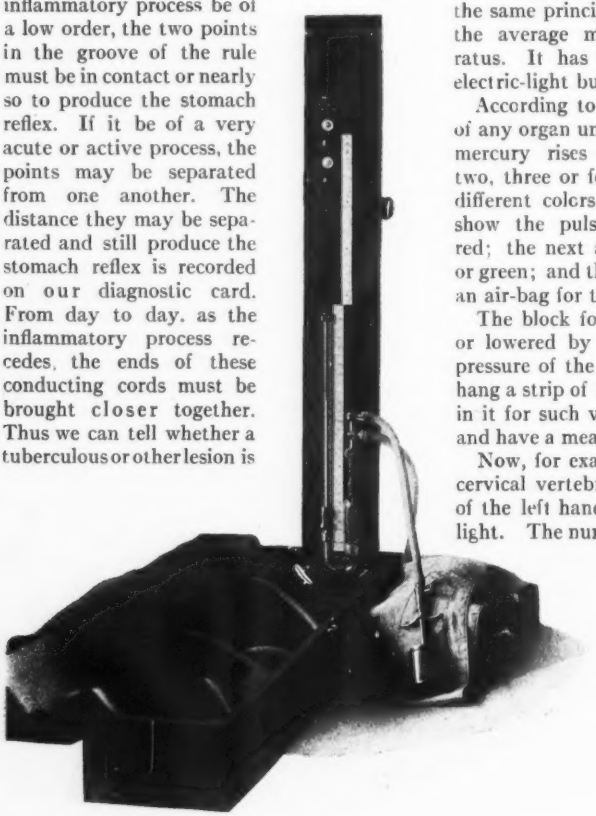

Fig. 3 The Psychophanometer

Now that we have practically proved that diseased tissue gives off a different energy than the normal, and inasmuch as we are able to demonstrate this, we must find means of changing the electrical energy from abnormal to the normal. When this is done, we shall have effected a cure.

The Psychophanometer*

The psychophanometer (Fig. 3) is a new apparatus for visualizing the effects of human energy. The first apparatus for demonstrating the emanations of human energy by the blood pressure was made and described by Dr. F. M. Planck, of Kansas City, Missouri. He neologized this instrument, psychophanometer. He used a mercury sphygmomanometer with one contact wire and one electric-light bulb to light when the mercury column raised.

The apparatus we have now devised is on the same principle but is more sensitive than the average mercury blood-pressure apparatus. It has four contact wires and four electric-light bulbs.

According to the contraction or expansion of any organ under the air bag, the column of mercury rises or falls, and so lights one, two, three or four lamps. The lights are of different colors, so as easily and quickly to show the pulsations. The lowest light is red; the next above, white; the third, blue or green; and the top one is bright. We have an air-bag for the trunk and one for the arm.

The block for carrying the lights is raised or lowered by a ratchet, to suit the blood pressure of the subject. Along the spine we hang a strip of Crookes' metal with openings in it for such vertebra as we wish to expose, and have a means of covering all the rest.

Now, for example, if we leave the seventh cervical vertebra exposed and point a finger of the left hand of a man at it, the lamps will light. The number of lights will depend upon the energy conveyed. By making all the lights glow and exposing only the third and fourth dorsal vertebra and pointing as before at them, the lights will go out, the number depending upon the amount of energy. If a woman do the pointing, she must use her right hand.

*The instrument illustrated is manufactured by George P. Pilling & Son Co., Philadelphia, Pa.

All these experiments and findings go to prove that the living body has polarity. They open up an entirely new field for research. They prove that the emanations of human energy are an index to the physical condition of the subject. This same human energy can be used to diagnose disease in its early stages better than any other known method. To Dr. Albert Abrams is due the credit for this epoch-making discovery. It is the external counterpart of the Abderalden reactions.

Echinacea: The Vegetable "Antitoxin"

Its Characteristics and Peculiar Therapeutic Effects

By FINLEY ELLINGWOOD, M. D., Chicago, Illinois

Editor of "Ellingwood's Therapeutist;" and Author of "Treatment of Disease," etc.

ECHINACEA, this rare and very valuable remedy, was introduced into the profession about thirty years ago, but eclectic physicians alone gave, at the first, any credence to its remarkable virtues. The statements made with regard to the action of this remedy were so exaggerated that even the physicians of that school, who ever have been willing to follow any suggestion concerning the properties of new drugs, hesitated about accepting them. But, after witnessing repeated wonderful results, the truth grew upon them, until at the present time this agent is used by perhaps one-third of the entire medical profession. However, not entertaining full confidence in it, it is not prescribed as often, nor in as large doses as a complete knowledge of its virtues justifies. Given within the lines suggested, the remedy does no harm, and it fails, probably, less often than any other antitoxic or blood-corrective remedy of which we have any knowledge.

Furthermore, the influence of its action in these fields is entirely different from that of any other remedy, as it produces, from the first, a general sense of wellbeing and improvement that involves all of the vital organs.

Echinacea is positively a corrective of depravation of the body-fluids. The conditions corrected are included under the terms septic, fermentative, and zymotic, or where there is a disturbed balance of the fluids which results in alterations of the tissues. Where pus is formed, especially in general pyemia, where the pus is absorbed, and where there are local cellular and glandular inflammations, it is especially indicated, as we shall mention later on. It is also a most active antidote to organic poisons as found in the venom of serpents and of stinging poisonous insects of every character and of every clime.

The dosage of the fluid preparations which I have used varies from 10 drops in simple cases, every three hours, to 1 dram every hour in extremely aggravated ones. Doses of 1-2 ounce have been given a few times, but I should call 2 drams the maximum. An average dose is 20 drops every two hours or 30 drops every three or four hours. As the remedy is quickly eliminated, frequency sustains the action of each individual dose. In some instances, the effect of each dose can be watched and the time for repetition be determined for another dose.

I have had less experience in the use of the concentration echinacoid; but, so many reliable observers have declared themselves concerning the satisfactory results obtained from this agent that my confidence in it has been established. So many proofs of its action have been made public that the reader, in all probability, will be able to secure the same effects, and with the same promptness, that have been secured from the fluid preparations. The ordinary dose is from 1-2 to 2 grains every two hours, in tablet form, preferably crushed and administered in hot water.

Physiological Action of Echinacea

Any toxic effect of echinacea is manifested only after massive doses or in especially susceptible patients, seldom occurring with even extreme authorized doses. These effects consist in reduction of temperature; the frequency of the pulse is diminished; the mucous membranes become dry and parched, and there is a prickling sensation; there is headache of a bursting character; a tendency to fainting is observed when the subject assumes an erect position; the face and upper portion of the trunk are flushed; there is pain throughout the body, which is more marked in the large articulations; there is dimness of vision; intense thirst and gastric pains, followed by vomiting and watery diarrhea are experienced. No fatal case of

poisoning has been recorded, to my knowledge. Even in extreme cases, it is seldom that any undesirable effects are observed.

When half a teaspoonful of the tincture is taken into the mouth, a pungent warmth is at once experienced, which increases to a tingling, and this remains for half an hour after it has been ejected. This sensation is similar to that produced by aconitine, but not so entirely confined to the nerve end-organs. The sensation seemingly results more from a mild nerve-irritant effect. The action much more resembles that of xanthoxylum.

If a small quantity of the tincture is swallowed undiluted, it seems to produce constriction of the throat, a sensation of irritation and of strangulation, always disagreeable, but much more severe in some subjects than in others. The sensation persists for some minutes, notwithstanding the throat be gargled, water be drank, and every vestige removed. It actively promotes the flow of saliva. The warmth and tingling extend down the esophagus to the stomach, but no further unpleasant influence is observed. In a short time, diaphoresis occurs. Continuation of the dosage stimulates the kidneys to increased action. All of the glandular organs seem to feel the stimulating influence and their functional activity is improved. The stomach is strengthened in its function, the appetite increases, the food is more perfectly digested, the bowels operate better, and absorption, assimilation, and general nutrition are materially improved.

Echinacea encourages secretion and excretion, preventing further autointoxication, while quickly correcting its influence in the system if it exists. It stimulates retrograde metabolism more markedly than any other single remedy. It influences the entire lymphatic system, and the condition of the blood is as if the patient had been taking stimulants, liver-remedies, and iron. Sallow, pallid, and dingy conditions of the skin of the face quickly disappear and the rosy hue of health becomes apparent. Anemic conditions improve, with increased nerve-tone.

The effects enumerated, as manifested by its action directly upon the blood, are its most valuable effects. The natural secretions are at first augmented, and, where elevation of temperature, due to any possible infection, exists, the temperature is lowered, the pulse is slowed, and the capillary circulation is restored. It positively and always antagonizes infectious processes. It exerts a peculiar influence over localized inflammatory conditions also, especially if these are attended by blood dyscrasias. It has an important field in adynamic fevers, reducing the pulse and temperature and subduing delirium.

Special Indications

Echinacea is *the* remedy for "blood poisoning," so called. Its field covers acute autoinfection, slow progressive blood taint, faults of the blood from imperfect elimination of every possible character, and from the development of disease-germs within the blood. It acts equally well, whether the profound influence is exerted upon the nervous system, as in puerperal sepsis and uremia, whether there is prostration and exhaustion, as in pernicious malarial and septic fevers, or whether its influence is shown by anemia, glandular ulceration or skin disease.

It is especially indicated where there is a tendency to gangrenous states and sloughing of the soft tissues, where the throat is dark and full, tongue full, with a dirty, dark-brown or black coat; in all cases where there are sepsis and zymosis.

It undoubtedly exercises a direct sedative influence over all of the fever processes, in typhoid fever, cerebrospinal meningitis, malarial fevers, asthenic diphtheria, and so on; for, while it equalizes the circulation, it also acts as a sedative when there is abnormal vascular excitement, and it lowers the temperature if this be elevated, while, if this is subnormal, its singular effect upon the vital forces makes for the restoration of the normal condition. As a sedative, it is comparable in some respects with baptisia, rhus, and bryonia.

Echinacea In Typhoid and Similar Fevers

The action of this remedy as an intestinal antiseptic can hardly be described. It takes first place in many diseases. Its action upon the stomach in many particulars resembles that of hydrastis, while throughout the entire intestinal tract its influence dissipates the causes of autointoxication and promotes a high grade of functional action, not only as to the intestinal glandular organs, but as to the mucous glands as well.

It exercises an immediate influence upon all fevers caused by the persistent absorption of septic material. Typhoid fever, puerperal fever, the fever of pyemia, and in many cases malarial fevers, all are witness to the specific destructive action of this agent upon the germs inducing the fever.

While most prescribers combine some certain sedative with echinacea in infectious

fevers, many observers have learned to look for the falling of the temperature which follows the destruction of the germs by this agent, and thus give echinacea independently of the special sedative. In abrupt infections, the temperature will decline from 1-2 to 2 degrees within a few hours, and will not increase while the remedy is continued.

No such abrupt drops in the temperature are observed as those which follow the curetting of the septic womb or the removal of septic material; yet, it promptly arrests germ development, and evidences of steady restoration from bacterial influence are quite quickly apparent from the action of this drug.

In the treatment of typhoid fever, there are probably thousands of physicians now who do not fail to include this remedy as a basic agent during the entire febrile stage. It is not necessarily continued in large doses, but certain manifestations demand its use for a short time in large doses. Under the use of this agent, if begun early, the temperature seldom reaches a point higher than 103.5 degrees, and that only for a short time each day.

If care with the auxiliary measures is exercised, the course of the fever is limited to fourteen days. In those cases in which the fever continues for twenty-one days (and this point is seldom exceeded), there is no delirium, there is but little nervous excitement, there is no hemorrhage, and there are no sequelæ. The patient recovers rapidly, and often the subsequent good health is better than previous to the siege.

The mortality, where this agent is used, is very low. A number of careful observers have claimed that the giving of this remedy at the very onset of the disease limits the fever to seven days, and that fourteen days is extreme. The blood does not become impaired; the appetite increases, and frequently assimilation is increased to a marked degree; the nerve-force is retained; there is an improvement in the elimination of all organs; there are evidences that ulceration of Peyer's patches has abated; there is no tympanites, and other enteric symptoms abate rapidly; perforation is almost entirely unknown where this agent has been administered.

This is claiming a great deal for one remedy; but, as stated at the outset, echinacea has been found to be a remarkable remedy, and it will sustain a reputation for remarkable results. However, the thoughtful physician will not depend upon this remedy alone, and the associated employment of the sulphocarbolates is urged, together with other drugs having special indications in this disease.

In its action upon septic fevers, it seems to act as a stimulant to nerve-force, those vital forces which are depressed by the infection seemingly being quickly aroused.

I have seen this plainly marked in a case where, from septic absorption after a badly conducted abortion, there was sudden suppression of the urine, with almost immediate evidences of uremia, mild convulsions and delirium. The multiplied and dangerous symptoms made the case an alarming one. After the uterus was evacuated and made thoroughly aseptic, 20 drops of echinacea was given every two hours continuously, extreme heat was applied over the kidneys, and a single dose of an antispasmodic was given, the echinacea being continued alone. After the first day the temperature slowly dropped, the mind cleared, there was gradual restoration of the renal secretion, and the recovery of the patient was entirely devoid of complications.

Having this remedy, and macrotys and gelsemium, to fall back upon, sudden suppression of the urine has lost its terrors to me.

In its early use, more was claimed for it in diphtheria than we now expect of it, and, yet, it still remains an exceedingly valuable medicine. When this remedy, together with phytolacca and iron, is given, the exudate contracts and disappears and local as well as constitutional evidences are plainly apparent. The fever declines, the vital forces increase, mental and physical depression disappear; all in a very natural and rational manner. All ulcerations of the mouth, throat or nose will find an effective remedy in this.

In ulcerative conditions of the intestinal tract, it is in constant use, and in appendicitis it is seldom neglected by those who are familiar with its action. Pus deposits are almost impossible when this agent is given, and as a preventive of this condition it should not be overlooked.

In Cerebrospinal Meningitis and Tetanus

A most remarkable influence has been exercised with the use of this agent in destroying the toxins of cerebrospinal meningitis. Doctor Webster, of San Francisco, was probably the first to call our attention to the value of this remedy. Judging from his personal observations and those made since then by hundreds of our physicians, the action is reliable, persistent, and highly satisfactory. Whenever convulsive or inflammatory conditions of

the brain and cord, depending upon infection, exist, this agent can be relied upon.

I am confident the same rule applies in this case as in the treatment of tetanus; a fact likely to be overlooked, as it may be in other convulsive disorders. This rule is, that there are two dominating conditions to be treated: first, the infection; second, the spasmodic influence exercised upon the spinal centers. This agent antidotes the infection.

For a powerful, reliable antispasmodic in this disease, gelsemium is determining for itself a fixed and permanent place. Our best authorities are now united in the fact that this nerve and spinal sedative has a direct and reliable influence upon convulsive action in this disease, and the two remedies given in conjunction, as they are in tetanus, will show gratifying results. It is Webster's opinion that the remedy specifically reinforces the vascular area concerned in the nutrition of the cerebrospinal meninges. Its influence upon the capillary circulation is not comparable with any other known remedy. It seems to increase the force of the circulation in these vessels, but it also seems to endow them with a certain amount of recuperative power.

Our earlier reports did not show the results of the action of the remedy in tetanus, but in the last ten years the agent has been injected at the seat of the wound, and in some cases the condition has abated without the addition of an antispasmodic. But, in most cases gelsemium has been used, both remedies in large doses in the same manner as suggested above in the treatment of cerebrospinal meningitis, and most happy results have followed in the larger proportion of cases.

Dr. John Herring reported a marked cure of a case of tetanus with this remedy. Doctor Lewis reports three cases, where the remedy was injected into the wound after tetanic symptoms had shown themselves. All the tissues surrounding the wound were filled with the remedy by hypodermic injection, and gauze saturated with a full strength preparation was kept constantly applied. The remedy was also administered in 1-2-dram doses every two or three hours. Another physician has reported the observations in quite a large number of cases where tetanus either had markedly developed or was anticipated. The use of the remedy satisfactorily overcame all symptoms where present, and where none were present no tetanic phenomena developed.

In the diagnosis of this disease, the physician may sometimes confuse septic phenomena with those of developing tetanus, and the cure of the septic conditions may have been taken for a cure of tetanus. This same fact may apply to cases bitten by dogs.

Some Local Uses of Echinacea

It is especially needed in erysipelas, when sloughing and tissue disintegration occur; its local influence being most reliable.

In the pain of mammary cancer and in the chronic inflammation of the mammary gland, the result of badly treated puerperal mastitis, where the part has become reddened and congested, the remedy has done satisfactory service.

In bedsores, fever-sores, and chronic ulcerations, it is exceedingly useful. It is diluted and applied directly; but it is also given internally. It is of much value in old tibial ulcers, in chronic glandular indurations, and in scrofulous and syphilitic nodules and other specific skin disorders. The extract or the fluid extract may be combined with an ointment-base (such as lanolin), in the proportion of 1 part to 1, 2 or 3 parts of the base; this to be freely applied. It can be injected into the sinuses of carbuncles or into the structure of the diseased parts, with only good results. Logan treated with this remedy alone 10 cases of stubborn skin disease of undoubted syphilitic origin. It was applied externally and given in full doses internally, with a satisfactory cure in every case.

When applied to painful surfaces, to acute and painful local inflammations of the integument, or to a painful womb, its pronounced anesthetic influence is soon manifested; while it is of great benefit in preserving freedom from pain during the active healing processes, which are stimulated and encouraged by this remedy. Professor Farnum is enthusiastic over the action of echinacea in overcoming the odor of cancer, whether in the early stages or in the later ones of the development of this serious disease. He advises its persistent administration whenever there is a cancerous cachexia, believing that it retards the development of cancer and greatly prolongs the patient's life.

We have already referred to its specific use in the treatment of phlegmenous swellings, old sores, dissecting and surgical wounds, and where there are pus cavities of long standing; also as a very positive remedy when applied whenever gangrene is anticipated or has appeared. Its influence in gangrene of the extremities has been very pronounced. It should be applied freely, externally, while given internally. In gangrene of the fingers,

the curative benefits are observable from the first application. It is useful in dermatitis venenata, in erysipelas with sloughing phagedena, and in phlegmasia alba dolens or phlebitis. In this latter condition, its external use will greatly assist the internal medication.

Echinacea in Syphilis

In the treatment of syphilis, very many observations have been reported. It has been used by itself alone, but also in conjunction with other alteratives. The longest time, of all cases yet reported, needed to perfect the cure was nine months. At present it is seldom prescribed alone, but generally in conjunction with other vegetable alteratives, and occasionally with potassium iodide.

In nearly every case, the patient begins to feel a general improved condition after taking the treatment a few days. Some of them are enthusiastic concerning the sense of well-being they experience. All the sensations of discomfort are removed, and the patient becomes hopeful and encouraged. The specific fever in the first stages soon declines, and there is a permanent abatement of all the evidences of the disease. Absolutely no undesirable influences are observed, and no side-effects to overcome. It combines in its action the influences of all the agents usually needed.

Its influence is not enhanced in all cases by the use of iodides. Occasionally when the iodides had been given, they were omitted and this treatment continued alone. An amelioration of the disorders of the skin, after the withdrawal of the iodides, was then observed. This condition often is induced by elimination of an excess of the salt.

The following most remarkable case, one of rare infection, occurred in my own practice and is reported in my "Materia Medica," from which it is quoted:

"A gentleman, aged forty-five years, apparently in good health, was vaccinated, and as the result of supposed impure virus a most unusual train of symptoms supervened. His vitality began to wane and he became so weak that he could not sit up. His hair came out, and a skin disease, pronounced by experts to be psoriasis, appeared upon his extremities first, and afterward upon his body. In the writer's opinion, the condition had but little resemblance to psoriasis. It seemed more like an acute development of leprosy than any other known condition. This advanced rapidly. His nails began to fall off, he lost flesh, and a violent iritis of the left eye developed, and ulceration of the cornea in the right set in; and for this difficulty he was referred to Prof. H. M. Martin, president of the Chicago Ophthalmic College.

"Doctor Martin gave him 10 grains of the iodide of potassium three times daily, and fed him freely upon phospho-albumin. The loss of hair was stopped, but no other favorable results were obtained. The condition progressed rapidly toward an apparently fatal termination. At this juncture, Doctor Martin asked the writer to see the case with him. It looked as if there were no possible salvation for the patient, but, as a *dernier ressort*, the writer suggested echinacea, 20 drops every two hours, the phospho-albumin to be continued.

"For perhaps ten days there was no apparent improvement. The patient was confined to his bed, being too prostrated to sit up. The nails on both hands and feet and the thick skin from the soles of his feet and the palms of his hands came off entirely, and he lost the sight of his left eye; but, after the first few days, after he was put on echinacea there was no advancement in the disease, and finally a slow improvement set in. His appetite increased, his vitality returned, his right eye was restored to its normal condition, and he began to gain in flesh.

"Doctor Martin being called away, he sent the patient back to his previous physician, who continued the treatment, with the addition of the iodide of iron; but both of the physicians attribute the marvelous results to the action of echinacea, of which about 16 ounces was given, 20 drops at a dose. The patient has regained his normal weight of more than 150 pounds, eats well, sleeps well, and enjoys excellent health."

As a Cure for Snake Bites and Rabies

Echinacea has long been in use among the Indians in the West as a cure for snake bite. It has created such a furor among the practitioners who have used it against bites of poisonous animals that it has made the reports, apparently, altogether too exaggerated to establish faith in it among those who have had no experience with it. Cases that seemed hopeless have rapidly improved after this drug was locally applied and given internally. There is at present no abatement in the enthusiasm. One physician, by means of this drug, controlled the violent symptoms from the bite of a tarantula and quickly eliminated all trace of the poison. Dr. H. C. P. Meyer has found echinacea to give prompt relief in stings from insects and in poisoning by contact with certain plants. As an antidote to

the venom of the rattlesnake, it stands without a peer. Dr. Gregory Smith gives the history of 613 cases of rattlesnake bite in men and animals, all successfully cured. With the courage of his convictions upon him, he injected the crotalus venom into the first finger of his left hand. The swelling was rapid and in six hours was up to the elbow. At this time he took a dose of the remedy, bathed the part thoroughly, and lay down to pleasant dreams. On awakening in four hours, the pain and swelling were gone. The fresh root scraped and taken freely is the treatment used by the Sioux Indians for snake bite. Recoveries from crotalus poisoning are effected in from two to twelve hours.

By far the most difficult reports to credit are those of the individuals bitten by rabid animals, of which there are between 20 and 30 at the present time. In no case where echinacea was employed has hydrophobia yet occurred, and this was the only remedy used in a large part of them. In 5 or 6 cases, animals bitten at the same time as the patient had developed rabies, and had even conveyed it to other animals; and, yet, the patient showed no evidence of poisoning, if the remedy was used at once.

One person exhibited the developing symptoms of hydrophobia before the drug was begun with. They ceased shortly after treatment. In no instance has an opportunity offered to try the remedy after the symptoms were actually developed. One poorly nourished anemic and jaundiced child was badly bitten, and the echinacea treatment improved its general condition in a marked degree.

Although subsequent developments will not be likely to sustain the clearly exaggerated statements of some enthusiastic observers, there is no room at the present time for doubt as to the leading position this agent will take in the condition named, as well as to its vital importance in the therapeutics of these conditions.

One cure of hydrophobia with echinacea is reported, the patient having been bitten by a rabid animal, one of a litter of six half-grown pups, all of which showed signs of hydrophobia and were killed. A number of persons were bitten by these pups. Two of these died of hydrophobia, three were treated at the Pasteur institute and cured, and the one just described was treated with echinacea and cured. In this instance, the doctor prescribed teaspoonful doses of echinacea every three hours. The remedy was introduced into the wounds on saturated gauze and all the injured surfaces were covered with it. The dressing was secured in place by a roller bandage. Prior to the administration of the remedy the symptoms of nervous irritation—of incipient hydrophobia—were strongly marked. After treatment, these symptoms abated rapidly, and the patient recovered in a satisfactory manner.

Echinacea has had a most marvelous influence in overcoming pyemia. We have had some extreme cases reported, where it would seem that the patient was positively beyond all help, but in which amelioration of the symptoms was pronounced and the restoration satisfactory.

Smallpox and Other Conditions

In the treatment of smallpox, conclusive proofs are now furnished us, which declare this remedy to be of great efficacy, not only in ameliorating all the phenomena of the disease, but in preventing any sequelæ. When it is applied to the skin in the form of a lotion, the pustules will be benign in their character and terminate with a minimum of scar.

Doctor Wilkenloh reports the treatment of at least 5 cases of goiter, in 3 of which there were exophthalmic complications, and all five patients were cured with this remedy alone. The Doctor gave the remedy internally in full doses, and injected from 5 to 15 minims directly into the thyroid gland, besides keeping applied externally gauze saturated with it. Massage also was used, and the general condition of the digestive system and eliminative organs received the most careful attention. As no other remedy than this one was given, there could be no doubt about its positive influence.

One of the most marked effects obtained from this remedy has been in the treatment of anthrax in man, seriously infected from animals. I have a record of several cases, in neighborhoods where there has been wide infection, which have been cured by echinacea alone, when persons, even in the same family, otherwise treated, have died. It would be impossible to convince a doctor who has used this remedy in full doses for anthrax, that it was other than the medicine itself, that had produced the beneficial results, so immediate is its influence, and so conspicuous are its effects. However, if there is any case in which large doses frequently administered *must be given*, it is in this highly infectious disorder.

Two-dram doses every hour, with a careful watch for any possible toxic action, which has been reported as occurring, is not too large a dose. This should be lessened as soon

as the beneficial effects from smaller amounts can be secured. However, I should not hesitate to give 3- or even 4-dram doses every three or four hours, for at least a short time, in cases that seem to threaten only a fatal termination from this disease.

Refraction For the General Practitioner

By Thomas G. Atkinson, M. D., L. R. C. P. (Lond.), Chicago, Illinois
Author of "Essentials of Refraction"

EDITORIAL NOTE.—Are you following this series of papers upon refraction? If not, then you are missing a good thing. Refraction work is easy to learn, is pleasant, profitable, and opens up a splendid field for good men. Look up the back numbers in Doctor Atkinson's serial. Buy a copy of his book. Write him for details, if you do not understand him fully.

Strabismus

THERE are two distinct kinds of squint, one of which arises from an error of refraction, and may be regarded as simply a manifest muscular imbalance, the other, from an organic paralysis of the ocular muscle. The first is known as concomitant strabismus, the other, as paralytic.

Paralytic strabismus, with the exception of that slight degree of internal squint accompanying cerebrospinal diseases, virtually never affects more than one eye. If, therefore, we have a case of double squint, or of alternating squint—that is, where first one eye and then the other is the deviating one—it is safe to assume that we are dealing with concomitant strabismus. Where, however, the deviation remains confined to one eye, the very first thing to be done is, to determine to which class of strabismus it belongs.

The differentiation is made in the following manner. First have the patient "fix" (i. e., direct his vision to an object 6 meters or more away) with the sound eye, which will bring the pupil of the sound eye in a line with the middle of the eyelid. The other eye then will be seen to deviate. Now make a fine chalk mark at the middle point of each lower eyelid. The pupillary center of the fixed eye will coincide with this mark, while in the squinting eye it will show deviation from the mark. Make another mark on the latter lid, to coincide with the center of the squinting pupil. The distance of the second line from the center will indicate the degree of deviation.

Now let the subject similarly fix the other eye—the unsound one—and then mark off the degree of deviation made by the sound eye, which now is the squinting one. If the degree of deviation made by the two eyes is equal, the strabismus is concomitant, caused by error of refraction; but, if the degree of deviation made by the sound eye is greater, the case is one of paralytic strabismus.

The deviation shown by the unsound eye is called primary; that made by the sound eye, secondary.

The rule, therefore, is that where secondary deviation is greater than primary, the condition is paralytic. The explanation is as follows: In concomitant strabismus, both eyes really are physically sound and in whatever direction they move they do so equally, but in paralytic strabismus one eye is partly disabled, and, under the same amount of innervation, does not move as far as does the sound one.

Having determined that the squint is concomitant, the next step is, to determine the degree of deviation. This is done by means of a candle flame reflected from the pupil.

With the sound eye fixing, we hold a lighted candle between the two eyes, in such a position and at such a distance that the reflected image of the flame is seen exactly in the center of the sound, fixing pupil, and observe in what relation to the deviating pupil the other image falls. It will not fall in the center of the deviating pupil, of course, but to one side or the other of the center.

If, on the other hand, the image still falls within the pupil, it indicates a strabismus of the first degree; if it falls outside the pupil, but within the cornea, it indicates a deviation of the second degree; if it falls on the edge of the cornea or outside the cornea altogether, it indicates a squint of the third degree.

The degree of the deviation helps to determine the treatment.

We may now make an attempt to measure more accurately the degree of strabismus in terms of functional error, expressing it in prism-angles; it is not always possible to do this, though, because a muscle which has given up the effort to maintain its balance is

plainly not any too ready to respond to the stimulus of a prism.

It should be borne in mind, also, that, if we do succeed in finding a prism that will give single vision of an object as 6 meters, that prism does not measure the geometric degree of deviation, but the functional degree of imbalance beyond which the eye is unable to maintain its poise. Thus, the geometric degree of deviation may be 30 degrees prism-angle, but a prism of 25 degrees may give single distant vision; meaning that the remaining 5 degrees the eye is able to overcome for itself.

For the refractionist, this measure of the functional capacity is much more important than any geometric measurement of deviation.

As to the treatment of strabismus, that varies greatly according to the circumstances.

In young children, moderate degrees of squint in which the sensibility of the retina—that is, the visual acuity—of both eyes, is good as a rule are readily cured by refracting the eyes and putting on the correcting lenses for constant wear. Even severe grades of strabismus in these little patients are amenable to patient and persistent refractive measures, so long as there is no amblyopia; and these measures should be given a fair trial before operative intervention is undertaken.

Where, however, the squint is severe, it is well to put the eyes under atropine for several weeks or, better still, to let the child wear strong convex glasses several hours each day, for a long period, before attempting to correct the refraction. This puts the eyes at rest and coaxes them into a state of parallel poise.

In cases in which the squint has been of long standing, and is constant in one eye, so that a functional amblyopia is established, it is necessary to straighten the eye, partly at least, by surgical means, before attempting to restore functional usefulness. These cases are altogether too difficult and complicated to be gone into here at any length. They transcend the scope of purely refractive work.

In the older child and the adult, the problem is different. Even here, if the squint is slight and recent and visual acuity is unimpaired, full correction of the refractive error (or perhaps a little overcorrection in the case of a hyperope), usually will suffice. But, unfortunately, strabismus in older persons rarely is slight or recent. Nevertheless, as long as visual acuity is normal or nearly normal in the deviating eye, it is our duty to try to remedy the squint by optical measures before resorting to the tenotome.

In adults, however, something more definitely stimulating is needed than the passive agency of convex lenses recommended for children. Prism and stereopticon exercises should be prescribed for these patients.

It is impossible in this place to go into the details of these optical gymnastics. All that can be done at this time is, to indicate the general principles on which they are to be based.

In the case of prism exercises, the general rule is, to ascertain, by the procedure described above, the margin of functional capacity possessed by the defaulting muscle and then to give a pair of prisms that will not quite cover that margin, so as to coax the muscle into action; then gradually reduce the prism assistance, week by week or month by month, until the muscle is able to do without it altogether.

Thus, if a pair of prisms totaling 30 degrees will completely compensate for the squint, and relieve it, you will prescribe a pair totaling 28 degrees. The muscle will thus be coaxed to make a 2-degree effort. When it has become used to this 2-degree effort, reduce the prisms to 24 degrees, and coax another effort from the muscle, thus gradually removing the prismatic aid. Needless to say, the refractive error must be corrected, and the correction work continued constantly during these exercises and in the intervals.

For the stereopticon exercises, have the patient use one of the ordinary cheap prism-stereoptic view-glasses that are sold in every notion store, removing the prisms from the sight-holes and replacing them with a plus 6 or 8 spherical lens. Cut the stereopticon card in two, so as to separate the pair of pictures. The patient is then to look through the lenses at the views, first in normal juxtaposition, then gradually separating the two pictures, that is, drawing them apart from each other laterally, and make an effort to maintain single vision of the view as long as possible; wearing his correction, of course, then and at all other times.

These exercises are of use only in cases of inward strabismus, there being no known method of stimulating the external recti muscles. And they are of value only where the visual acuity of the deviating eye is fairly good. Where there is amblyopia, it is useless to try to restore visual function for an adult person. The only thing left to do in such a case is, to operate upon the muscle, sheerly for esthetic reasons. Fusion of the images is out of the question.

A Case of the Morphine Habit

And Its Treatment

By George L. Servoss, M. D., Gardnerville, Nevada

IN THE latter part of July a young man, who had become habituated to the use of morphine while under treatment for an injury sustained through an automobile wreck, came to me, asking that he be relieved of the habit. His financial status was such that he could not give up his work, which was that of entertainer in a public house, and he was not in a position to take the immediate, or quick, cure. I told him that it might be a long and tedious treatment, by the gradual reduction-plan and that success might possibly not follow. He agreed, however, to place himself in my hands and to be satisfied, whether or not he were cured in the end.

The amount of morphine taken at the beginning of the treatment was about 4 grains per day, as nearly as could be judged from his description of the bulk quantity. Judging from this, I started with that dosage, divided into four or five individual doses of from 2-3 to 1 grain each. I made up a standard solution, which was reduced from day to day by the addition of distilled water. During the first ten days, the patient was not aware of the reduction, which was moderate, but thereafter for a week or ten days it was necessary to continue the same amount day after day without reduction, as withdrawal-symptoms were becoming marked. As by and by he became used to this amount, further reductions were made every four or five days, according as he became accustomed to the smaller amount.

At the end of four weeks, there was absolutely no morphine present in the solution, a normal salt solution having been substituted; and this latter placebo was continued for ten days. During this time, the withdrawal symptoms, as shown by pain in the thighs and legs, an inability to sleep, and other nervous manifestations, were marked. To allay the nervous irritation, the patient was given from 1-32 to 1-6 grain of solanine hydrochloride at hourly intervals during the day, while, for ensuring sleep, he was given three doses of sulphonmethane, grs. 5; scutellaroid, gr. 1-3; solanine hydrochloride, gr. 1-32; and cactoid, gr. 1-64; repeated at hourly intervals, for two or three doses, beginning at 1 o'clock a. m

During the time of reduction, the bowels were given attention and other eliminative organs and the skin stimulated. As a cathartic, the Hinkle cascara cathartic combination, one or two tablets every second night, was employed; and, to overcome formation and absorption of toxins from the bowel, the sulphocarbolates were used continuously, and more especially as the withdrawal symptoms became more marked. The Hinkle formula was employed after it had been clearly shown that calomel produced too much irritation of the stomach and the patient was losing ground through its use.

As a tonic, the triple arsenates, with nuclein, were employed, a full dose being exhibited after meals; and this served to maintain the tone of the patient as well as to keep him in good appetite, which latter he had been losing until this combination was employed.

The last week of the treatment, during which time he was receiving no morphine, the patient, unless he was under the effect of solanine at all times, suffered very markedly and for three or four nights obtained but very little sleep. When he did get to sleep, he would be awakened through the jerking of his legs. With the addition of the sulphonmethane combination, an improvement was noted, and on the morning of August 24, or one month, to the day, after the treatment was instituted, he walked into my office and said, "We have won." The night before, he had gotten between eight and nine hours continuous sleep and awakened the following morning without any of the withdrawal symptoms whatsoever, and without the least desire for his customary "shot."

Elimination the Watchword

I realize that I have nothing particularly new to report in this case or in its treatment; however, I believe that it emphasizes the fact that elimination has much to do with the cure of the habit.

Throughout the time this man was under observation, every eliminating organ in his body was stimulated to the utmost, and, although he had marked withdrawal symptoms, these were not at any time sufficient to cause him to give up his work, that of playing

a piano from early in the evening until the wee small hours of the morning. Nor did he become crazed, as do many who take the quicker cure, even though during the last week of treatment it was with difficulty that I kept him from obtaining a supply of the drug and so starting the habit over again.

It was a noticeable fact that on the mornings after the taking of the cascara compound the withdrawal symptoms were less marked and that after the effect of the sulphocarbolates became more marked these symptoms became less and less. The solanine relieved the nervous symptoms during the last three or four days of the treatment, and to such an extent that the patient was able to remain at work without showing any very great nervousness.

I believe that, had this patient been working under different, more normal conditions, and if he could have dropped his work for the time being and been continuously under my care and observation, the cure could have been consummated in shorter time.

It is to be noticed that during the last week or ten days the symptoms were controlled without the use of a single dose of morphine and that at the end of that particular period the desire for the drug was abolished to such an extent that there was no demand for even the morning "shot," and this though the patient was supplied with what he supposed was a solution of morphine.

In carrying on the reduction I made the primary solution as above stated, each cubic centimeter carrying 2-3 of a grain of morphine sulphate. This solution was kept in my office, the patient coming to me for his daily dose, which was either 4 or 5 Cc. As each dose was taken out of the bottle, distilled water was added, which, naturally, reduced the next dose. At the end of the first ten-day interval, owing to withdrawal symptoms, the dose was held for four days at the same amount, and then again gradually decreased in the manner described. At any time the withdrawal symptoms reappeared, the dose was again held stationary for a day or two.

Having, following the tenth day of treatment, made an error in my computation, as to the exact amount of morphine in the solution, I do not know the exact dosage thereafter. At that particular time, the patient was getting 0.015 grain five times a day, and I know that thereafter the reduction was much more rapid. After losing track of the exact amount of morphine present, determinations as to its presence or nonpresence were made from day to day by tests with ferric chloride, until such time as they showed an absence of the drug in the solution. After that, a physiologic saline solution was employed as already told.

While we are told by the authorities that we must enforce idleness upon our patients, if we would obtain results, I believe that this particular case demonstrates that a case may be carried through to a successful termination if the reductions at all times are made as indicated and the eliminative functions stimulated to their utmost. My patient did not lose a single "shift" of work and was at no time incapacitated. The withdrawal symptoms were nicely controlled with other drugs than morphine, drugs which produced no bad effects and which did not interfere with the elimination of toxins.

As you will observe, other than in the reduction of the drug, there was not a set line of treatment, the indications for various remedies being met as they arose.

From my experience with this case, it is my opinion that any other victim could be treated in like manner, were the patient held well in hand at all times and made subservient to the doctor's will.

We Should Not Mind

By George C. Mason

We should not mind if skies are gray,
If joy but dwells within the heart,
With conscience clear from day to day.
We should not mind if skies are gray,
Just cease to worry and repine,
And let the sun of laughter shine
Across your rugged, upward way
And you'll not mind if skies are gray.

We should not mind how rough the road,
Just so the goal is fair and sweet,
Or when 'tis love that plies the goad.
We should not mind how rough the road.
Just so we're treated fair and square,
Just so we feel we're getting there.
We laugh and sing beneath the load
And do not mind how rough the road.

We should not dread the coming night
That marks the passing of the soul,
Just so our lives show clean and bright.
We should not dread the coming night,
It means success from toil and strife
And progress in the scheme of life.
If we have striven for the right
We should not dread the coming night.

What Others are Doing

CALCIUM FOR COUNTERACTING SIDE-EFFECTS OF BROMINE AND IODINE

Calcium, as is known, antagonizes the physiologic action of bromine and iodine, as demonstrable by experiments with muscles; this element, in combination, also exercises an antiphlogistic action. These facts determined E. Frey, of the Pharmacologic Institute at Marburg (*Med. Klin.*, 1914, p. 357), to test the value of calcium for preventing the inflammatory processes of the skin and mucosas often following in the wake of a course of bromine and iodine treatment. Consequently he substituted the calcium salts for the customary alkali compounds, and results proved so satisfactory that he now warmly recommends this practice for wider adoption.

This report bears out our own experience with calx iodata (calcidin) which rarely (if ever) produces the train of disagreeable symptoms known as "iodism."

HYDRASTININE IN PULMONARY HEMORRHAGE

In a communication to the *Therapeutische Monatshefte* (July, p. 505), Doctor Roeher complains of the slighting manner with which writers on hemoptysis treat hydrastinine as a remedy, this agent generally being passed over with a mere mention by name; and this in view of its well-known hemostatic properties, particularly in uterine bleeding.

The author is on the staff of a hospital at Grabowsee, Germany, and there of late the hydrastinine (synthetic) was given a trial in a few consecutive cases (only 5) of severe hemoptysis; and, inasmuch as the action was so marked—indeed, better than ever witnessed from other means, barring elastic compression of the extremities and, in certain forms, from digitalis—he makes a detailed report of them. The patients mostly were phthisics, and in 4 a single injection promptly arrested—and that permanently—the flow of blood; the fifth (advanced tuberculosis) required two doses.

The author candidly admits that his experience is not conclusive, further observations being necessary to determine whether hydrastinine actually is a positive aid in all forms—capillary, venous or arterial—of pulmonary bleeding.

The editor of CLINICAL MEDICINE knows of such brilliant results following the use of emetine hydrochloride in hemoptysis that he hesitates to suggest a substitute for that drug: yet hydrastinine certainly deserves careful trial and may well be used in alternation with or to maintain the action of the emetine.

In uterine hemorrhages, especially uterine oozings, hydrastinine stands practically in a class by itself, its only rival being ergot—still without a peer for checking sudden and severe flooding.

QUININE THERAPY IN EXOPHTHALMIC GOITER

R. Gautier reports having witnessed gratifying results in numerous cases of exophthalmic goiter following the prolonged use of quinine in heroic dosage (*Presse Méd.*, 1914, p. 267). According to the severity of the condition, Gautier prescribes 1, 2 or 3 Grams of the quinine salt (hydrochloride) to be consumed a day, for fifteen or twenty days in each month; and this regimen to be persisted in for several months.

This seems to be an adaptation of the method introduced by the late Doctor Forchheimer of Cincinnati, now adopted by many other American physicians, consisting in the use of 5-grain doses of quinine hydrobromide, four times a day, in association (usually) with 1-grain doses of ergotin. We know of many brilliant successes in the treatment of exophthalmic goiter with these remedies, and recommend them to our readers with confidence.

THE FRENCH TREATMENT FOR INFANTILE COLITIS

For the incessant vomiting of infantile colitis, Hutinel gives iced Vichy, in case of failure injecting the dysenteric serum. To weak children he gives tea slightly sweetened with milk sugar. Instead of ordinary water

he orders boiled water with 1 grain sodium bicarbonate and 5 grains sodium chloride to the liter. The bowels are washed out with an isotonic solution, containing flaxseed tea with 7.5 grains sodium chloride to the liter. No antiseptics are prescribed, but if the stools are offensive, he gives enemas of boiled water, 1 liter, oxygenated water, 50 Grams, sodium phosphate 3 Grams, sodium chloride 5 Grams, sodium bicarbonate 1-2 Gram. Copious enemas distend the bowels.

In dysenteric forms, applications of silver nitrate, potassium permanganate, or a decoction of ipecac, 1 or 2 Grams to 250 of water, are found valuable. For tenesmus small hot enemas of 100 Grams of salt solution, adding one to three drops of laudanum. In some choleriform cases, and if the child has taken much milk, the stomach must be washed out.

Calomel may provoke hemorrhages. Castor oil or sodium sulphate is better. He repeats the old argument against soluble antiseptics, favoring benzonaphthol and bismuth salicylate. Hot baths are sedative. For a tendency to syncope he injects camphor, meets cyanosis with adrenalin, vasoconstriction with the nitrites, and convulsions with bromides.

Naturally, after this feeble treatment his little patients remain invalids a long time, with cachexias, hypersensibility of the bowels, and uncontrollable cases of vomiting. The constipation requires castor oil, suppositories, flaxseed, but no magnesia. They have fetid breath, calling for Glauber salts, Vichy or Carlsbad water. Their debility demands wine—a glass of Madeira before each meal—and the digestive ferments.

From another source we find evidence that the gastroenteric maladies of children still present as formidable a problem to French physicians as they did to us twenty years ago. Discussing the depopulation of France, Ramu says (*Ann. de. Med. et Chir. Infant.*, April 15, 1914) that among the general factors is the mortality of the first year. At the infants' clinic at Nancy the mortality fell from 74 percent in 1910 to 48 percent in 1913. The mortality from gastroenteritis and cholerine in 1910 was 78.68 percent and had fallen to 73.33 percent. That from bronchopneumonia fell from 90 percent to 53.33 percent. First in his list of failures he places "certain forms of gastroenteritis rebellious to all treatment."

They need missionaries in the land where Burggraeve established his reforms. Compare the foregoing feeble, archaic and ineffective treatment with that which has made the terrors of cholera infantum a thing of the past in our own country. Subdue the excitement of the pneumogastric, as manifested by vomiting and purging, by a hypodermic dose of atropine large enough to flush the skin. Give the sulphocarbolate of zinc, sodium or lime, or the three combined, in small and rapidly repeated doses until the stools have lost all abnormal odor. Keep the child warm. Relieve tenesmus by small enemas of water, hot as can be borne; if dysenteric, add silver nitrate, 1-8 grain to the ounce. Order water in abundance, lukewarm or hot. No food until it can be retained and utilized; then raw eggs, white infused in ice water. As indicated, when reaction has occurred, emetine in minute doses to incite healthy digestive secretions; calomel and saline laxative to keep the bowels clean; hydrastoid as a digestive tonic; and a choice of many remedies as the need for each becomes apparent.

HELMINTHIASIS AS A CAUSE OF NEUROTOXEMIAS

The result of a series of animal-experiments has been made public recently by Rachmanoff, that will interest the general practitioner. The presence of worms in the intestines is recognized as not infrequently giving rise to a variety of nervous phenomena, sometimes of a quite severe nature; but, since the direct connection could not be established, the most common explanation has been that of irritation reflex. Now Rachmanoff (*Ann. d. L'Inst. Pasteur*, Feb., 1914) claims to have brought proof of helminthogenous toxins causing these neuroses.

These experiments consisted in injecting into cavies extracts derived from various kinds of worms (e. g. tænia plicata equi, ascaris megalocephala) and also infecting other of these animals with the respective parasites themselves.

The respective cavies exhibited symptoms of subacute or of acute toxicoses, and in these cases alterations in the nerve-cells, the neuroglia, and the fibrils of the white matter were demonstrable; the latter even disappearing in severe attacks. The intensity and duration of the toxicosis depends upon the degree of nerve lesion produced by the specific toxins absorbed from the intestine. In the anaphylactic state produced by the presence of worms, the lesions of the nerves are far more pronounced, and of more frequent occurrence than when a toxicosis is

directly produced by injecting the parasitic toxins.

Inasmuch as not infrequently nervous phenomena (occasionally very severe ones, such as symptoms of meningitis) are observed in worm-carriers, Rachmanoff is inclined to consider them anaphylactic in nature.

A REMEDY FOR BOILS AND SKIN INFECTIONS

We have recently given the experience of Doctor Tweddell, who, in treating furunculosis, seems to get better results with dilute sulphuric acid than with any other remedy. Now let us quote Carroll W. Allen (*New Orleans Medical and Surgical Journal*, July, 1914, p. 17) who, after using a variety of remedies, including autogenous and stock vaccines, sulphur baths, carbolic-acid injections and baker's yeast, all in his own person (for he was the sufferer in this instance) finally resorted to dilute nitromuriatic acid, of which he took 10 to 15 drops in water after each meal. Within a few days he began to note improvement; the well-developed lesions soon disappeared and those in the process of development were quickly aborted. As a result of his experience he now recommends this remedy to others.

SUBSTITUTION OF DIGITAL PHALANGES

Since 1907, Lexer has practiced substitution of phalanges of the fingers by other bones, having performed this operation, both autoplastically and homoplastically, a number of times with eminent success. The bone selected is a suitable phalanx of a toe, and the periosteum of the inserted bone is fastened to the respective articular capsules by means of a few stitches. Exarticulation of the toe is obviated by fastening in the vacated space a piece of rib-cartilage trimmed to fit.

The author's most recent case was that of a young woman, on the middle phalanx of whose third finger a periosteal sarcoma had formed. Healing proceeded nicely, and three weeks after the operation (the date of the report) she already could execute movements with the finger, as also with the toe.

THE LOCAL APPLICATION OF IODINE IN DIPHTHERIA AND SCARLET-FEVER

Iodine is now considered one of our best bactericidal agents. In view of this fact, it has been employed by A. H. Thomas (*Brit. Med. Jour.*, Jan. 10, 1914, p. 85) in the treatment of 30 cases of diphtheria and 19 of scarlet-fever, as well as in 10 other cases suspected of being of similar origin; the form used being that of an ointment containing 5 percent of free iodine.

This ointment is applied as follows: 3 cotton-wool mops are used, two to remove the secretions and false membrane, and to dry the affected surface; the third, after smearing it with the ointment, is thoroughly rubbed over the inflamed tissue and surrounding areas. These applications are repeated every three hours or, in severe cases, every two hours, until improvement occurs.

Under this treatment, Thomas says, many cases of diphtheria clear up within a few hours, the throat becoming quite free from false membrane on the second or third day. In the scarlet-fever cases, there was remarkable freedom from local complications.

CARBON-DIOXIDE SNOW FOR THE OBLITERATION OF BIRTH-MARKS

George S. Foster, in *The Vermont Medical Monthly* for June 15, 1913, page 131 reports his experience with carbon-dioxide snow. After describing the method of preparing the cubes employed, Foster presents his technic for the treatment of angioma.

As a rule, he says, 2 cm is a sufficiently large surface for an application at one time, and only one or two applications, without pressure, should be made at a single sitting, but their number may be increased after the degree of reaction has been found out. At first twenty seconds' contact is enough for an application; later this may be increased to a minute and a half if thought necessary. The depth of action is increased by the degree of pressure exerted.

When the snow first meets the skin, a sharp burning sensation is felt, which ceases in about five seconds. This same sensation however reappears when the warm blood returns, and then lasts for about thirty minutes. Following this, in from three to six hours, a bulla will form. In from two to five days, the serum within this bulla becomes hardened, desiccation sets in, and one or two days later the scab is formed and completely dried up.

In case irritation persists during the first stages of this reaction, compresses, wet with cold boric-acid solution may be applied. The dry scab should not be softened by means of ointments, or anything else, but allowed to drop off spontaneously. After recovery from the reaction, a second treatment may be given

if necessary, but this never must be done before the scab has come off by itself. Sometimes, as for instance in the case reported by the author, a considerable number of successive applications must be made before recovery is complete. When the work has been well done, the blemish disappears, leaving only a thin white, shiny scar, which is noticeable only in quite close proximity.

GELSEMIUM IN THE TREATMENT OF NEURALGIA

Another contribution to the therapy of gelsemium is found in the report of Bériel to the Medical Society of the Lyon hospitals, published in *La Province Médicale* (July 25, 1914, p. 331). Doctor Bériel finds gelsemium a very inconstant remedial agent, but in many instances capable of giving great relief from neuralgic pains. His experience with the remedy again suggests the advisability of using the alkaloid instead of the more or less uncertain galenic preparations.

The Doctor declares that it is impossible to lay down rules as to which cases of neuralgia or pain of nervous origin will yield to gelsemium. However, he has found it of value most frequently in the treatment of facial neuralgias, especially in the neuralgias accompanied by vasomotor disturbances. Also, it has been prescribed with benefit for neuralgic pains accompanied by facial spasm. In some instances, the relief obtained is quite remarkable, and Doctor Bériel now uses gelsemium in treating persistent nerve pains, particularly in facial neuralgia, before resorting to the injection of alcohol, upon which formerly he largely depended.

In order to secure the results desired, he has found it necessary to give the remedy in much larger doses than those usually recommended. Most of the books, for instance, advise a dosage of from 6 to 15 drops of the fluid extract per day. He has found from 30 to 35 drops, given in divided doses, and beginning with a relatively small quantity, not only harmless, but, as a matter of fact, necessary to secure desired results. He begins with 15 drops a day, increasing by 2 to 5 drops every day thereafter, until the results desired are attained, or a total of 30 to 40 drops has been reached.

As a rule, remarkable sedation is produced by the remedy before the maximum dose is reached. If in this way no relief is obtained, then the drug should be discontinued. Usually several days are required—a week on the average—to secure the desired action.

As already suggested, much more uniform and satisfactory results can be obtained by the use of gelseminine. This alkaloid is of extreme value in the treatment of many cases of neuralgia, and should be employed much more than it is.

HAS PYORRHEA BEEN MASTERED AT LAST?

What promises to be the most important therapeutic discovery since Ehrlich put out salvarsan has been announced within the last four months. We hope no reader of CLINICAL MEDICINE will lose sight of this, or fail to take advantage of it. In August, Barrett and Smith published in *The Dental Cosmos* (see our abstract, September CLINICAL MEDICINE, page 805) the report of studies apparently showing that pyorrhea, or interstitial gingivitis, is due to the action of an ameba, and that emetine hydrochloride, applied locally, would cure it. An announcement of later and equally important work in this field appears, editorially, in the October number of *The New Orleans Medical and Surgical Journal*. We reprint the entire editorial herewith:

"Though pyorrhea alveolaris, or Riggs' disease, is generally looked upon as a disease of minor importance and is usually relegated to the dental practitioner, it is quite possible that its importance has heretofore been very much underrated. The announcement of its specific cause and cure, therefore, will be received with some gratification.

"At the meeting of the Orleans Parish Medical Society held on September 14, Drs. C. C. Bass and F. M. Johns, of the Tulane College of Medicine, presented a paper in which they reported having found an ameba (*Entameba buccalis*) in the mouth lesions of 85 out of 87 cases examined, and in all stages of the disease. They further announced having obtained most remarkable and gratifying results from treatment with emetine hydrochloride, administered hypodermically. The full detail of the paper will appear in the *Journal*, but the effect of this announcement should be so far-reaching that we are presuming to present the news before we publish the full story of the method and results.

"Amebæ have been known to exist in the mouth, and this fact has been established for years, but their pathogenic relation is now determined by the work of Bass and Johns.

"The use and efficacy of ipecac and of emetine in amebic dysentery is well established, and these drugs have been employed

extensively. Smith (A. J.) and Barrett have obtained considerable success in the treatment of Riggs' disease by local application of emetine to the diseased gums, and their work (*Dental Cosmos*, Aug., 1914) may be held as pioneer in this particular disease and with this remedy.

"Bass and Johns have experimented considerably with the object of determining the proper dosage of emetine for this purpose, also to ascertain the proper interval between doses and the necessary duration of the treatment. They have not reached final conclusions, and are emphatic in stating that further experience and experiments now under way are likely to modify the present routine.

"The dosage suggested is 1-2 grain of emetine hydrochloride dissolved in one Cc. of water, given hypodermically in the arm (or other part of the body) each day for three successive days. A similar dose should follow every fourth to seventh day until the gums are entirely healed and the loosened teeth have been tightened in their places. The degree of peridental membrane destruction will determine the length of treatment—which may be only a few days or may need months.

"The object of the repeated doses of emetine after the first few days' treatment is to destroy any amebæ which may have escaped the previous treatment and to prevent the reinfection likely to occur before the gums have had a chance to heal and the root sockets to resume a normal condition.

"Infection with this particular ameba is widespread, and the authors suggest that brushing the teeth with a few drops of fluid extract of ipecac on a wet brush may be prophylactic in mild or early cases of the disease. Bass and Johns express the belief that the treatment submitted by them is specific for Riggs' disease, but that it cannot be expected to replace the physical damage done by the disease. The usual dental care of the mouth must be practiced, and the treatment of gums and mouth is necessary just as if there were no such infection.

"The *Journal* is enthusiastic over this further gratifying success of Bass and Johns, who, it will be remembered, gave new life to the study of malarial organisms not long ago. This new achievement can only bring the highest of praise and encouragement from their many professional friends and adherents, while, if the method carries as far as it should, it will bring the blessings of a multitude of those afflicted."

Barrett and Smith recommend filling the gingival sacs and their walls with a 1-percent solution of emetine hydrochloride. This is certainly more logical than to use the ipecac locally, as advised by Bass and Johns. The ideal method of treatment would apparently be the conjoint use of the hypodermic injections and local applications.

EMETINE IN HEMOPTYSIS

From time to time we have printed reports of the use of emetine hydrochloride in the treatment of hemorrhage from the lungs. More and more convincing testimony of the value of this remarkable remedy in this condition comes to hand from various sources.

Among others, Fernand Persillard (*Province Médicale*, July 25, 1914, p. 320) declares that emetine is "a most precious therapeutic resource" in the treatment of hemoptyses occurring during the course of pulmonary tuberculosis. When given in 2- to 5-centigram (1-3 to 5-6 grain) doses subcutaneously, this remedy exercises an effective and rapid antihemorrhagic action, although this may be of short duration, requiring the repetition of the dose. It is effective in all forms of tuberculous hemoptysis. Even when the hemorrhage is associated with large cavities, it often is arrested promptly. However, it is in the congestive, apyretic forms that it gives the best results.

No secondary by-effects are produced, such as nausea, vertigo or palpitation. Owing to the short duration of its action, the injection should be repeated upon the following day, this treatment being continued for several days, until the hemorrhage apparently has entirely ceased. Given in doses of 10 to 12 centigrams (1 2-3 to 2 grains), emetine is entirely harmless.

Doctor Persillard says that the remedy is easy to employ, and, while it will not succeed in every instance, it is something that the physician can depend upon in the majority of cases.

HOW AND WHERE TO INJECT EMETINE HYDROCHLORIDE

There are occasional reports of pain or discomfort following injections of emetine hydrochloride. Perhaps these results are due to defective technic. Dr. F. M. Sandwith, in his Lettsomian Lecture on "Dysentery," published in *The Lancet* of September 19, 1914 (p. 731), says that emetine should not be administered immediately under the skin, since when this is done painful lumps and

bruises may occur. Nor is it necessary to insert the needle into the body of the muscle. He prefers to inject it three inches beneath the clavicle, or elsewhere in the subcutaneous cellular tissue. The only inconvenience which he has met with, after such use, has been a very slight tenderness at the site of injection on the day following the administration of the drug, while a few women complain of slight muscular pain after its use.

TREATMENT OF PRURITUS ANI

Two remedies for the treatment of pruritus ani, both said to be effective, are suggested by Cropper (*British Medical Journal*, May 2, 1914). The first of these is tincture of iodine (B. P.), which may be used in one-half or full strength. It is painted over the mucous membrane of the affected area, usually about three times a week. Care should be taken not to excoriate the skin.

The other remedy is compound tincture of benzoin. This is said to be even more effective than the iodine, and it is cleanly and does not soil the linen. It may be used twice or thrice daily and it never irritates. Within two minutes after application, the spirit in the tincture evaporates, and then all temptation to scratch the part disappears.

THE TREATMENT OF DIPHTHERIA CARRIERS

A method of cleaning up the throats of diphtheria carriers, which has proven successful in the hands of Dr. H. R. Miller (*Medical Record*, July 25, 1914, p. 158) is to spray the patient's throat, one hour before or at least two hours after the ingestion of food, or later, with a one-fourth of one percent solution of formaldehyde (40 percent). Usually he begins with the weaker solution and gradually increases its strength. Three, five, or even six days of treatment are required. A number of cases reported show the efficiency of this method.

EUCALYPTUS OIL IN SCARLET FEVER

English medical papers, during the last year or more, have had much to say about the value of inunctions of eucalyptus oil in the treatment of scarlet fever. Not only are these inunctions believed to check the spread of the disease by sterilizing the skin and preventing the scattering of the disease-bearing epidermis, but the remedy is asserted to have a direct modifying action upon the disease-process itself. Dr. Henry C. Becker, in his fine paper on the treatment of scarlet fever, in *The New York Medical Journal*, of August 1, 1914, says that as a disinfectant oil of eucalyptus is three times stronger than carbolic acid, though when applied externally it is less irritating to the skin than most essential oils. Since it evaporates from the body, the vapor is inhaled, thus exerting a disinfectant action upon the air passages and lessening the tendency to ear and throat complications.

Eucalyptus oil may be applied pure, before desquamation has set in, the patient being rubbed once or twice daily with it; but after desquamation, it is better to mix the oil with equal parts of liquid petrolatum or a cold cream made with the mineral oil as a base. Such dilution delays evaporation, prevents dusting of the epithelium, and also prevents absorption of too much of the eucalyptus (which is said to be a kidney irritant) by the skin. Also, rubbing with this mixture every morning has a protective influence against accidental chilling. Finally, these applications give great relief to the itching of which many patients complain.

QUININE HYDROBROMIDE AS A PELLAGRA CURE

Of "cures" for pellagra there seem to be no end. No one realizes this better than Isadore Dyer of New Orleans, who, in *The Texas State Journal of Medicine*, for July, 1914, gives a long list of the various medicinal preparations recommended for this disease and which have been used with a greater or less degree of success. However, Dyer has employed still another drug, and since his results are based upon an experience of seven years, with nearly 100 cases, without the loss of a single patient treated entirely by himself, the method which he suggests certainly demands consideration and respect, especially in view of Doctor Dyer's high standing in the profession. The remedy recommended is quinine hydrobromide.

Regarding this drug, Doctor Dyer says: "I consider it as nearly specific as any drug mentioned by any one who has until now written about the disease." In mild cases he gives from 2 to 5 grains three times a day, and in severe cases as much as 10 grains every two or three hours, night and day, for a period of four or five days.

While various other remedies are suggested for the treatment of the diarrhea, Doctor Dyer declares that the quinine alone will

control this symptom, and usually within the first five days. For the stomatitis, potassium chlorate, in 3-grain doses, given with iron lactate in the same quantity, is recommended. Other drugs sometimes useful are strychnine and the calcium salts, while the citrous fruits are of service in the scorbutic type. However, the essentials of treatment are: (1) cheerful surroundings; (2) to keep the patient out in the sunlight; (3) to keep the patient out of bed; and (4) the quinine hydrobromide.

BACTERIN THERAPY IN DISEASES OF THE UROGENITAL TRACT

From an article by L. W. Bremerman, published in the July, 1914, number of *The Chicago Medical Recorder*, it appears that one of the most common causes of failure in the bacterin treatment of diseases involving the urogenital tract is, inability to recognize the fact that a large variety of bacteria are responsible for the infections occurring in that locality. Probably the bacillus coli and the bacillus tuberculosis are responsible for the more typical infections, observes Doctor Bremerman. The following table, which we reprint from his article, gives an idea of the variety of organisms that may be found:

DISEASE	BACTERIOLOGY
Acute nephritis, pyelonephritis and pyelitis.	B. coli, streptococcus, pneumococcus, staphylococcus, bacillus pyocyaneus.
Chronic nephritis, pyelonephritis and pyelitis.	B. tuberculosis (primary), pyogenic bacteria (secondary), B. coli, B. pyocyaneus.
Acute cystitis.	B. coli, pneumococcus, streptococcus, staphylococcus.
Chronic cystitis.	B. coli, B. tuberculosis (primary), with secondary pyogenic bacteria.
Acute—	
Urethritis.	Gonococcus, staphylococcus, streptococcus, pneumococcus, B. pseudodiphtheria.
Epididymitis.	B. tuberculosis, together with pyogenic organisms, as above.
Prostatitis.	Gonococcus, staphylococcus, streptococcus, B. pseudodiphtheria, etc.
Vesiculitis.	Gonococcus, B. coli, pneumococcus, streptococcus and staphylococcus.
Chronic—	
Urethritis.	Gonococcus, B. coli, B. tuberculosis, associated with pyogenic bacteria.
Epididymitis.	
Prostatitis.	
Vesiculitis.	
Vulvovaginitis.	
Acute metritis, endometritis and salpingitis.	
Chronic metritis, endometritis and salpingitis.	

Doctor Bremerman, while admitting the value of stock vaccines, still is inclined to prefer the autogenous ones. He also advises against exclusive dependence upon bacterin treatment, especially in cases of colon infection.

THE BACILLUS BULGARICUS IN DIABETES

Those who have come to look upon diabetes as an incurable disease should be interested in the statement made by Dr. Philip Horowitz in *The New York Medical Journal* for August 8 (p. 260), that "not only is it not a hopeless condition, but it is positively curable in the majority of cases." Doctor Horowitz declares that since March, 1912, he has treated 102 patients for diabetes, and that in 52 of these the sugar has been entirely eradicated from the urine, most of these patients being now on a fairly normal diet. In 4 others, the sugar has been reduced to a trace, and 39 of the remaining patients are improved, some of the latter being still under treatment and probably curable. Of the remaining 7 treated, 1 received no benefit, 2 died of nephritis, 2 died of pneumonia, 1 of cancer, and 1 of tuberculosis. This certainly is a remarkable record, and should inspire optimism, and stimulate other physicians to a close study of Doctor Horowitz's methods.

The distinctive features of Doctor Horowitz's treatment are: (1) the use of cultures of bacillus bulgaricus; and (2) a proper and closely regulated diet. The use of the Bulgarian bacillus depends upon the belief that intestinal autointoxication is an important (perhaps the most important) factor in the etiology of diabetes. Doctor Horowitz is convinced that the condition is caused by a protein toxin, or toxins, formed in the alimentary canal and interfering with the proper function of the liver and pancreas, and possibly, also, with other organs having internal secretions.

In using the Bulgarian bacillus, which he administers in bouillon form, the author insists upon the importance of giving sufficient amounts. In the mild forms, a much smaller quantity is used than in the severe forms of the disease. It is usually given, in a little water, one-half hour before meals and before retiring.

In the few cases in which the improvement is not satisfactory, and where apparently there is an infection of the bowel with gas-

forming bacteria, Doctor Horowitz supplements the dose of the Bulgarian bacilli given by the mouth with colonic injections of cultures of this organism. Before administering the enemas containing these cultures, the bowel should be washed out thoroughly with normal saline solution; then a considerable quantity of the culture is introduced through a funnel and rectal tube, and any residue of the bouillon clinging to the tube is washed into the bowel with a few ounces of lukewarm water before it is withdrawn.

Doctor Horowitz also insists that full doses of the culture must be continued for some time after the sugar has disappeared from the urine. He has not found it safe to reduce the dose for at least four to six weeks after repeated analyses show glycosuria to be absent.

Doctor Horowitz also insists upon great care in the feeding of these patients. While no stereotyped diet can be adopted as desirable in every case, every patient should receive some form of carbohydrate. He prefers rice, oatmeal or wheatena, very thoroughly cooked. From 45 to 90 Grams of cereal is given once a day, preferably for breakfast, except when the patient is suffering from acidosis, when it is given with every meal. Patients also receive from 60 to 90 Grams of thoroughly toasted white bread. The quantity of bread is increased as the percentage of sugar begins to diminish. From 4 to 6 eggs are allowed daily; but fried or scrambled eggs are forbidden if there is acetone or diacetic acid in the urine. If there is acidosis, fats of any kind are forbidden. Not to exceed 4 ounces of milk is permitted in tea or coffee or with the cereal. However, when the percentage of sugar is high, no milk is allowed. Lean meats are permitted, including 250 Grams daily of broiled steak, lamb, mutton chops, chicken, turkey, and so on. Fried or roasted meats or rich gravies are not permitted. Doctor Horowitz allows spinach, string-beans, celery, lettuce, and asparagus. Vinegar or other vegetable acids are taboo. Among the fruits, grapefruit is given first choice, but as the case clears up sour oranges may be added. Apples are not allowed until the urine is sugar-free. Alcohol and alcoholic drinks, of course, are forbidden.

Among the drugs, of most importance are those having a cholagog action, stimulating the liver function, including the various laxatives, salines, and mineral waters. In some cases, the lower bowel is cleared with enemas of olive- or Russian mineral oil. If we may interpolate a suggestion, it would be that boldine, a hepatic stimulant of great value' be added to the list.

The editor of CLINICAL MEDICINE has seen a number of reports of splendid results in diabetes, following the use of the Bulgarian-bacillus tablets and bouillon. We hope that many physicians will be encouraged to give this method a trial.

OPIUM-EATERS AND EMETINE FAILURES

There are, as we know, occasional failures in the use of emetine in amebic dysentery, and one of the causes of such failure is pointed out by Carter in an article contributed to *The Indian Medical Journal* for March, 1914.

Carter declares that the amebicidal effect of the alkaloid is delayed in patients who are confirmed opium-eaters. Also, it is in the case of these unfortunate individuals that we get the cases of rapidly fatal acute gangrenous dysentery. Doctor Carter believes that lack of success with emetine in such instances and under such conditions is due to the effect of the opium, in producing stagnation of intestinal contents, with consequent accumulation of amebæ-laden feces in the pouches of the large intestine.

CHOLERA IN THE BALKANS

In view of the reports indicating the appearance of cholera in Austria and the adjoining Balkan and Russian provinces within the last month, we have read with interest Dopter's comments upon the cholera epidemic which occurred during the recent Balkan war, as published in the *Paris Médical* for August 1, 1914 (p. 207).

According to Professor Dopter, cholera was brought into Asia Minor by Turkish troops, these spreading the disease in Thrace early in the war, the Bulgarians suffering particularly, especially before Tchataldja. The Bulgarian troops in turn carried the disease into Macedonia, where it was propagated by the Greek and Servian soldiers.

How many of the Turks suffered from cholera, there is no means of telling, but among the Bulgarians it is said there were more than 15,000 cases, with 6000 deaths; among the Servians, 10,000 cases, with 2500 deaths; and, among the Greeks, 1000 cases, with 348 deaths. Professor Dopter declares that the Grecian troops suffered less than those of the other combatants, because of the care taken in prophylaxis. Not only were anticholera posts provided on the firing-line,

with portable laboratories, in order to insure accurate and early diagnosis, as well as isolation hospitals for the care of cholera patients, but a general plan of preventive cholera vaccination was instituted. Altogether 93,868 Greek soldiers and officers were vaccinated. Of these, 21,216 received but a single vaccination, the remainder, 72,652, being inoculated twice.

Following are the results: Of the 21,216 vaccinated once, 662 were attacked; or 3.12 percent. Of the 72,652 vaccinated twice, 319 were attacked, a percentage of 0.43. Of those not vaccinated but exposed, 14,332, 819 were attacked; a percentage of 5.75.

These figures certainly demonstrate the great value of prophylactic vaccination against cholera.

CHRONIC ARTHRITIS

Chronic arthritis, whatever its etiology, is now believed to be generally of focal origin. This is the position taken by Frank Billings (*Ill. Med. Jour.*, Sept., 1914, p. 164). He says that in order to treat these cases successfully it is first necessary to locate the portal of entry of the infectious organisms and parasites. He adds that, if the cause is accurately determined, all progressive types of the disease may be checked and recovery follow, unless there are destructive bone, cartilage or other tissue changes.

However, it is not always easy to locate the focus of origin of the disease, and it is necessary to investigate all possible sites. Doctor Billings' experience indicates that the following regions of focal infection are likely to be found, with respect to frequency and importance, in the order named: faucial tonsils and dental alveoli (with secondary cervical lymph-nodes) of about equal importance; sinuses of the head; intestinal stasis, due to abnormal anatomy; chronic prostatitis and seminal vesiculitis; pelvic disease of women; chronic pyelitis; chronic appendicitis; chronic cholecystitis and chronic abscesses anywhere else in the body. More than one of these foci may coexist. Consequently, it often requires repeated examinations, aided by specialists in diagnosis of the ear, nose, throat, teeth, pelvic organs, and so on. Blood counts and cultures, radiograms of joints and jaws, and of the gastrointestinal tract after bismuth meals frequently are necessary preliminaries.

When the place of infection is determined, the next step is, to remove the diseased tissues by operative or other means. These should be examined, to determine the dominant bacteria present. Cultures of these bacteria may be taken for the preparation of autogenous vaccines, which were shown to be of great value in the treatment of cases of this kind. Usually, it seems, streptococci are most frequently found in these cases of arthritis. Bacterins containing from 100,000,000 to 1,000,000,000 have been used, but ordinarily the large dose does not seem to be any more effective than the small one.

The use of the bacterin, according to Doctor Billings, seems to increase the defenses of the body and thereby to add to the probability of recovery. However, dependence upon these remedies alone is not sufficient, and Doctor Billings puts proper emphasis upon such remedial agents as rest, restorative food, pure air, optimistic environment, and graduated passive and, later, active exercise. As a rule, laxatives are required; tonics of iron, quinine and strychnine may be indicated; alteratives, such as arsenic or the iodides, and occasionally, in nervous patients, moderate doses of the bromides; while the salicylates may be used in moderate dosage to alleviate pain.

TREATMENT OF IVY POISONING

While it is rather late in the season for cases of ivy poisoning to happen (up north), nevertheless, it is a good thing to keep in mind that probably the best remedy for this condition is potassium permanganate. A good way to use it is as follows:

The affected part should be immersed in (or bathed with) a solution of this chemical, made as hot as can easily be borne. If the skin is broken, a 1-percent solution is to be used; otherwise, it may be employed in a more concentrated form, according to the location and character of the eruption. A very little of some alkali or acid may be added to the solution. The dark stain produced by the permanganate will wear off, or it can be removed by scrubbing with soap, cautious applications of oxalic acid, sodium hyposulphite, or, better still, a mixture of oxalic acid and hyposulphite.

EMETINE IN AMEBIC HEPATITIS

In Dopter's fine review of the infectious maladies, published in the *Paris Médical* (Aug. 1, 1914, p. 208), we find some interesting observations upon the use of emetine in amebic hepatitis.

The adoption of this drug in this disease

according to Professor Dopter, has brought about some really marvelous cures, and the word "marvelous," as here used, declares that author, is not an exaggerated one; especially so if we can judge by the observations of Gaide and Monzels, in a patient suffering from multiple abscess of the liver, so severe that the authors, judging from their preceding experience in similar cases, believed the patient's death to be certain. This patient recovered his health after emetine treatment.

In discussing cases of this kind, Dopter asks the question: Can emetine alone, without surgical intervention, bring about the reabsorption of abscess contents in amebic hepatitis? He answers this question by reporting upon two patients treated with emetine, in which the fever fell and the hepatic pains subsided, while the abscess itself persisted. Complete cure was not effected in the first of these cases until hepatic puncture and evacuation of the abscess contents were effected. In the second case, the abscess was emptied through the bronchi, following an attack of vomiting.

Dopter therefore agrees with Levêque and Bertrand, that emetine is endowed with an undeniable efficaciousness in tropical suppurative hepatitis. It transforms a living abscess into a dead abscess, and by so doing contributes a powerful adjunct to the methods commonly employed, hastens the disappearance of the disease, and diminishes the mortality from it.

A CASE OF PROGERIA

Progeria is the name for premature senility. Instances of this kind are not common, the first one on record being reported by Jonathan Hutchinson in 1886. In 1904, Gilford reported two others in *The London Practitioner*.

One very interesting case of progeria is described by C. W. Rand in *The Boston Medical and Surgical Journal* for July 16, 1914 (p. 107). The patient was a little Jewish girl, eight years and three months of age. When eight months old she was taken to a hospital, under a diagnosis of rickets. In January, 1913, she was sent to the Massachusetts Hospital School for Children, because it was found impossible to keep her in school, owing to her peculiar appearance. At that time this girl had the expression and general appearance of a woman of seventy-five, rather than that of a child seven years of age.

Physical examination revealed a person of dwarfish dimensions, with double congenital dislocation of the hips, and having every appearance of being an old woman in miniature. Her head was well proportioned, but small. There was a blue network of veins

A Case of Progeria—A Child of Eight

under the skin and a marked cyanotic cast about the inner canthus of the eyes. The arteries were tortuous; the ears were large; dentition was delayed, only seven permanent teeth being present; the neck was thin; skin was loose, elastic, and wrinkled. There was atrophy of the subcutaneous tissues over the entire body, except about the breasts and external genitalia, where there was only a very limited amount. Also, there was a network of small veins underneath the skin over the entire body. Her mentality was about that of a child of seven years. Rand continues:

"She seldom is pensive and only rarely enters into serious conversation with older patients. On the contrary, she prefers her doll and the society of other children. She is

a curious little body, peering into books and investigating new objects with interest, like a gnome out of one of Rockham's pictures. She is very active, cleanly in her habits, shy to strangers, affectionate, and easily influenced."

The appearance of the child is shown by the accompanying picture, which we reproduce from *The Boston Medical and Surgical Journal.*

MUSHROOM POISONING

In September of this year, there was a series of cases of mushroom poisoning in South Chicago, entailing several deaths. This reminds us that the mortality from this cause in the United States really is considerable. In one 10-day period in 1911, declares Bagnall in *The Boston Medical and Surgical Journal* (July 16, 1914, p. 111), there occurred 22 deaths in the vicinity of New York City. In 1905, there were 30 cases, with 12 deaths, and in 1906 there were 15 or 16 deaths. In the city of Hartford (Conn.), where Doctor Bagnall lives, this year (1914) there have been 26 cases of poisoning by mushrooms.

As Doctor Bagnall points out, there are a number of poisonous varieties of mushrooms, but the two forms most likely to produce trouble are the amanita phalloides and the amanita muscaria; the former being much the most likely to cause death.

Amanita muscaria demonstrates its presence by the muscarine symptom-complex [i. e., it stimulates precisely those peripheral structures which are paralyzed by atropine.—ED.], and the toxic symptoms usually appear within one-half to two hours after the ingestion of the fungus. This is an important point and should be kept in mind. The physiologic antidote is atropine, which is a true specific, and under its use the mortality from this class of mushroom poisoning is very low.

In poisoning with amanita phalloides, the symptoms are of an entirely different character and atropine is absolutely worthless as a remedy. According to Ford, of Baltimore, it contains two poisonous principles—an amanita toxin and amanita hemolysin, the latter a glucoside.

Amanita phalloides is a pure-white fungus growing in damp woods. It has white spores, a nearly white top, with perhaps traces of greenish-yellow coloration around the margin. The stem is bulbous at the base and has the ring below the pileus. It is most often found near oak-trees.

The symptoms following poisoning from amanita phalloides generally do not appear until from six to fifteen hours after its ingestion. Keep this fact in mind, for in differentiating from muscaria poisoning it is most important. In poisoning with this fungus, there is very severe pain in the abdomen, vomiting, intense thirst, choleraic or bloody diarrhea, while the victim gradually wastes away, and dies, in coma, in three or four days. The mortality exceeds 60 percent. It is reported that a third of the top of a small plant has caused the death of a child twelve years of age.

Doctor Bagnall describes 9 cases of mushroom poisoning, one of them in considerable detail; amanita phalloides apparently having been the species eaten. Of these 9 patients, 1 died; but under careful symptomatic treatment, addressed principally to the function of the kidneys, the other 8 recovered. In all these, hot packs were applied for an hour and one-half, every three hours, in addition to the active eliminative methods employed. Castor-oil is said to be the best cathartic here, since the salines may facilitate absorption of the poison.

To repeat: In poisoning with amanita muscaria, the symptoms develop within one-half to three hours at the latest, and the specific antidote is atropine.

In poisoning with amanita phalloides, the symptoms appear within from six to fifteen hours, and we have no specific remedy. Atropine here is *contra*indicated. Elimination is of vital importance, especially maintenance of the function of the kidneys.

TEMPERATURE REDUCTION IN SCARLET FEVER

To reduce the temperature in severe cases of scarlet fever, as well as to relieve the restlessness and delirium, which sometimes occur, Becker (*New York Medical Journal*, August 1, 1914) sponges his patients with equal parts of alcohol and water and if this fails of the desired effect, he resorts to a cold pack or a tub bath. If the latter is employed, he begins with a temperature of 90° and gradually reduces it by the addition of cold water or ice until it reaches about 80 °F. The bath should last from three to five minutes, and may be repeated every three or four hours. In treating hyperpyrexia, an ice-cap to the head may be found helpful.

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derivatives and antipyretics should not be employed, because of their depressing action. Not infrequently a dose of castor oil or a laxative saline may work wonders when the temperature is very high. In all forms of scarlet fever he advises keeping the bowels active.

If we may add one suggestion of our own to the excellent advice given by Doctor Becker, it would be the use of aconitine when the pulse is rapid and bounding, as is likely to be the case. This not only moistens the skin and reduces the temperature, but it quiets the patient's restlessness. It may be guarded with small doses of strychnine or digitalin, according to the special requirements of the case. The writer also has great faith in the use of calcium sulphide, given to full effect.

Doctor Becker's suggestion that when there is sudden heart weakness and an immediate response is desired, 1, 2 or 3 grains of camphor, dissolved in sweet almond oil, be given hypodermically, either alone or with a little adrenalin chloride, of course, is excellent.

ODD REMEDY FOR NEURALGIA: ELDEREERRY JUICE

A decidedly simple, though rather peculiar, antineuralgic, discovered accidentally, is announced by H. Epstein, of Prague, who asserts (*Prag. Med. Woch.*, 1914, No. 14) that it relieves rapidly, almost instantaneously, although being somewhat uncertain in action. The cure is claimed not infrequently to be permanent. This is how the author stumbled upon it:

Among the laity of that part of Europe the belief is current that certain brands of port wine will cure neuralgia, and this conviction so obtruded itself upon the author that he became interested enough to investigate—rather dubiously—this matter. Soon the wines reputed to cure were found to be certain adulterated brands the artificial color of which was imparted by the juice of elderberries—a substance (or, also, the pure principle of it) known to be largely utilized for coloring factitious red wines (as well as for fruit-juices).

As a result, Doctor Epstein began prescribing for neuralgic sufferers the plain inspissated juice of the berries of sambucus nigra, still official in Austria, and formerly in great vogue under the name of roob sambuci. (Roob—or rob—designated any inspissated juice of sweet fruits.) To his surprise, he did find this preparation to relieve neuralgia. He prescribed the roob dissolved in (preferably) a strong Spanish wine or else in a 20-percent alcohol; from 5 to 8 drams to be consumed per day. In fresh cases, relief ensues—it is claimed—within ten to twelve minutes (!), while older ones may take three to five days.

Epstein actually considers this elderberry juice a specific, but only for genuine neuralgia. If no improvement follows, it is not a case of true neuralgia; and, if it grows worse, one is dealing with a neuritis.

This is a rather puzzling presentation. All the other parts of the shrub possess positive pharmacodynamic properties, and these based upon known principles. (Cf. the Dispensatories and Materia Medicas.) The berries likewise have enjoyed an age-long reputation for curative properties, but their chemistry and systematic pharmacology leaves us in the lurch. All that we can ascertain about them is, that the berries contain citric and malic (and perhaps other fruit-) acids, in combination with potassium, sugar, gum, fat, tannin, peculiar coloring-matter, and a "dark-brown resin"; and all these determinations are several decades old.

As to their medicinal virtues, the modern textbooks mostly have little or nothing to say about elderberries (indeed, their use virtually has been abandoned); however, in Lloyd's American Dispensatory we find "valuable aperient and alterative properties" ascribed to them, their "juice evaporated to the consistence of syrup" acting "as a purge in 1-ounce doses." The only pharmacodynamic explanation the present writer can extract from the works at command is the tentative one based upon such authors as Kobert, to the effect that all sugars as well as the acid potassium salts of the several fruit-acids operate to render fruit-juices and the favorite "spring fresh-herb cures" mildly laxative. But, then, how about those 10-minute cures of neuralgia with roob sambuci? Autosuggestion?

NEW REMEDIES

Tenosin.—This is a hypodermic preparation put out by Bayer & Co., being marketed in ampules. It is said to contain p-oxyphenylethylamine and b-imidoazolethylamine, and is claimed to represent the full activity of ergot.

Yatren.—This is a new iodine compound with an aromatic basis, and is recommended as an efficient bactericide in all infectious diseases, and locally in diphtheria and the like.

Miscellaneous Articles

The Treatment of Pneumonia

There are various ways to treat pneumonia successfully, just as there are for other diseases. Each physician, as a rule, has his special method for any given disease. If I were limited to only a very few drugs for treating pneumonia, my selection ordinarily would be something like the following:

Creosote carbonate, 1 dram, every four to six hours, alternately with fluid extract of saw-palmetto, 1 dram, at the same intervals. Externally, unguentum crédé (15-percent collargolum ointment, Hayden), rubbed in as often and as liberally as needed.

Inhalations always are of value, although they are very much neglected. There are at command various inhalations, to be used from an inhaler vaporizer, or socalled croup-kettle. Purgatives, according to my experience, must be used with care especially in the later stages and near the crisis. As a rule, I prefer enemas in place of purgatives in any stage of the disease.

In bad cases about the crisis, I give one single dose of quinine sulphate of 30 or 40 grains once every twenty-four hours: but the quinine is never used, except in cases that are dangerous and liable to end fatally. In many instances, I have seen the quinine tide the patient over when I felt sure he would die if it were not given; in fact, it has never failed in my cases, except one, where the patient was dying when I first saw him. Recently I had a case of a 6-year-old girl in whom about the ninth or tenth day the fever went up to 104.5° F. She was too weak to cough or talk. She was given 10 grains of quinine once a day for three or four days, which reduced the temperature from day to day until it reached normal.

Baptisia tinctoria also is indicated. I give it when there is any evidence of sepsis, fetid discharge from the bowels, foul breath, and cerebral excitement with a foul coat on the tongue. Of course, there are many other useful remedies for the treatment of pneumonia. My object is not to cover the subject completely, but only to touch on a little that I consider essential and which is not as generally known as it should be.

J. A. Burnett.

Hartshorne, Okla.

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[Doctor Burnett's suggestions are good as far as they go, but they do not go far enough. We like better the scheme of treatment presented by Dr. J. M. French in this issue, which we hope will be generally read. The creosote carbonate and colloidal silver urged by Doctor Burnett are, of course, intended as systemic antiseptics. They seem to have value, though they are not specific. Quinine is a stimulant of leukocytosis—and this process is desirable—but the dosage suggested seems to us unnecessarily large. Indeed, we are free to confess that quinine has never seemed to us greatly to modify the course of pneumonia. A better remedy to arouse the defensive forces of the body is the pneumococcus bacterin, which should always be supplemented by that best of all leukocyte stimulants—nuclein.

No treatment of pneumonia is complete which does not aim at reestablishment and support of vascular equilibrium, and this is best attained through use of the defervescent and tonic alkaloids. But that is another story. For details we refer you to Doctor French.—Ed.]

THE NEWBORN BABE—HOW TO CARE FOR IT

"Inanition fever of the newborn" is rather a unique expression, I am sure. The needs or wants of a child soon after birth are the same as later on in life only a little more difficult to interpret. The cry, the only language of the newborn, is the same for all of its wants, whether hungry, thirsty or uncomfortable from heat, cold, moisture or what not. I instruct my nurses that the cry of the newborn indicates one of three things, hunger, thirst or want of bodily attention. A baby will cry for water as well as for nourishment.

I recall a case which occurred several years ago—it was on the fourth day of the puerperi-

um: the baby had been crying a few hours, and would not be satisfied by its nourishment, which was plenty, or by any manner of bodily attention. On my arrival I asked for a cup of hot water and a teaspoon. I at once began administering the hot water freely to the child, giving about an ounce in all. I then placed the baby in bed and he went to sleep almost immediately, and slept for three hours without wakening. This was all the colic medicine this baby ever received.

I have observed that a large infant requires nourishment soon after birth, more so than a smaller child. Why, I do not know. I advise a half teaspoonful of cream to four teaspoonfuls of boiled water given every four hours until the mother secretes a sufficient amount of milk for her child. A baby should be placed to the mother's breast every four hours, until the milk appears, then every two hours.

A child that is not doped with anodynes or soothing syrups will always cry when its napkin is soiled, and if this is changed at once it will never become chafed. A napkin that is soiled with urine only should always be washed before being used again. If clean napkins are always used, and they are removed as soon as soiled, no dusting-powders will be required, as there will be no chafing.

An infant whose parents are healthy should be born well and does not require medication if properly cared for.

On entering the room of a crying infant which is less than a week old, I always insert my little finger in its mouth. It usually begins sucking the finger at once. In a few instances I have found the mouth very warm, and then I took the rectal temperature and found the temperature to register 104° to 105° F. I have attributed this condition to congestion of some internal organ or organs, resulting probably from some fault in its first bath, which was too prolonged, room too cold or some other condition in which the child became chilled. The first bath should be a grease (usually lard) bath, given under cover or exposing only a portion of the body at a time. Then use a dry cloth to remove the excess of grease. In my early practice, I had two apparently healthy children who died when less than a week old. I did not take their temperatures with either finger or thermometer, but in each case the parents claimed the child had coughed a little. So, I concluded it was congestion of the lungs.

When I find the infant's mouth hot, I take its rectal temperature, which conforms to the finger-temperature. I recall three cases, ages three, four, and five days respectively, in which the temperature was 104° F. or more. I used quinine inunctions, and all responded rapidly to this treatment.

In my private hospital, I have 1-ounce bottles with rubber nipples, and each infant gets its water to drink as regularly as its nourishment. Do not forget the hot water, which is the best anodyne for an infant.

Doctor Douglas asks, "Have any of you ever tried treating the mother?" Yes, and generally with good results except in a few nervous and excitable mothers. I will relate one case.

This woman, mother of seven, had nursed her first and second child, and the third child a few weeks. In the others, the milk would leave as soon as she left her bed. This mother was advised to take—and she did—oatmeal gruel, hot milk (not boiled), or cocoa made with milk, to be taken between meals and at bedtime. She was forbidden to drink coffee or any alcoholic drinks. Her seventh child she nursed until it was nearly a year old, and a fine specimen of a child it was, too.

Some physicians advise nursing mothers to drink porter. This may increase the quantity, but, I am sure, not the quality. Too many babies are bottle-fed and too few mothers are advised as to the proper kind of nourishment. Both the food and drink of the nursing mother should be nourishing, but not stimulating, alcoholic preparations especially being avoided.

E. N. RITTER.

Williamsport, Pa.

VULNERARIES

In the days before antisepsis, treatment of wounds so far as dressing was concerned, made its demands upon the patient's own healing powers, which were to be aided by vulneraries. Then came the Pasteur-Lister methods, which aided the patient not at all, considered the wound-healing application of small account, but did interpose a shield between the patient and extraneous infection. About the year 1895 there appeared the experimental work of some German surgeons, who claimed that the use of antiseptics in infected wounds was of no benefit. (Authorities: the principal German surgical periodicals for 1895.) For centuries there had been in use a plant known as bruisewort. Modern men were experimenting with placental membranes. Now the consensus of opinion is that wounds

require both the shield of the dressing and the reinforcement of the patient's bactericidal products.

The value of the vulnerary begins where the surgeon leaves off, and bruise-wort, or comfrey, has been more or less in use for ages. Nor can anyone who has had experience with this plant be persuaded that it does not possess tissue-building powers. Neither is it strange that those powers should be sought for in embryotic tissues, because the active principle of placental membranes as well as of symphytum officinale (i. e., comfrey) is allantoin. German literature treats approvingly of that plant as a wound-healer, and personal experiment confirms the good results claimed therein. The Americans claim that comfrey will cause the disappearance of sarcoma. I do not believe, because I do not know; but, not knowing, I have not the recklessness to say, "Impossible."

Nature's usual first step in healing an incised wound is, to discharge a thin serous fluid. Attempts at aiding this first step are made by using an "osmotic pump"; that is, by applying some substance of high specific gravity in which an antiseptic is dissolved, and anticipating that germs carried out of the tissues will be killed as are those of external origin. Hence, glycerin and its combinations. Later, sodium chloride was similarly employed. This salt regulates osmosis and imitates some of the functions of blood-serum. Other sodium or potassium salts were mixed with the sodium chloride, until finally Wright, of England, mentioned the advantages of the citrate.

Wright's solution has been widely and successfully used; but it is really a wound-healer, pure and simple, and is devoid of any germicidal influence. It compares well with allantoin, and, in view of the raging European war, is much more accessible. It does seem as if the vulnerary had come into its own again, after all; at the same time the lessons learned from the wave of antisepsis are many and important.

Suppose one were to secure a vulnerary which was at the same time a germicide, yet, free from the drawbacks called irritation. Suppose a mixture existed which was sedative to tissues and attacked neither skin nor instrument. Suppose this preparation would take care of vaginal or dermal injuries so far as redness, heat, pain, swelling, and discharge were concerned. Suppose a surgeon could employ it equally well to treat vaginal gonorrhea or a septic or an aseptic wound, or use it on his own face after shaving. Then it might well be called the surgeon's own powder' especially if it were odorless.

There is such a combination, which, when it is brought in contact with an animal fluid or discharge, at once breaks up into Wright's solution, plus aluminum acetate, plus insoluble white lead; and its results are exactly what anyone would imagine they would be when backed up by the most powerful osmotic pump known; namely, cane-sugar, which compares with glycerin as 1600 to 1250 or less.

The experimentation which led up to this combination of wound-healer and protector would make many papers such as this one. There seems to be some difficulty in making the preparation; however, the power-machines experience no trouble. Consequently it would appear to be a question of trituration. Its formula for general use should be as follows:

Sublimate	grs. 2
Sodium citrate	grs. 40
Sodium chloride	grs. 240
Alum	grs. 180
Lead acetate	grs. 360
Sugar, enough to make	ozs. 16

Since writing the above, I have heard that some are using this compound either before or after the usual hand-cleansing procedure, as it keeps the operator's hands soft and pliable. Personally, after returning home from an operation, I make it a habit to take a teaspoonful of the powder in my hands, rub it in thoroughly (it gets wet by rubbing), leave it on for five minutes, and then wash it off with cool water.

DOUGLAS H. STEWART.

New York, N. Y.

THE CAUSE OF PELLAGRA AND TREATMENT SUGGESTIONS

The study of pellagra is now occupying the attention of many able scientific investigators and members of the medical profession. The etiology of this disease has not as yet been settled to the satisfaction of anyone, and the more one reads the many theories advanced as to its cause, the more at a loss he becomes as to what is the correct answer. Many able men now doubt and question the correctness of the maize theory. Many claim the disease is an intestinal intoxication or poison; there are others who claim the blood is first infected by the bite of some bloodsucking insect, quite possibly either the sandfly, the buffalo-gnat or the stable-fly. Regarding this theory, I will say that the disease often is found where neither the sandfly nor buffalo-

gnat exist, and where the gnat appears only at rare intervals, if at all.

The latest theory I have seen is that the disease is caused by a lack of "vitamin" in the system. Vitamin is a chemical body of recent discovery; it has been isolated from the hulls or husk of rice and maize, potatoes, and so on, and is present in numerous vegetables and fruits. The writer claims that Funk of the Lister Institute of Preventive Medicine, London, has formulated a definite conception concerning four vexing trophic disturbances—beriberi, scurvy, rickets, and pellagra—and has coined for this group the expressive collective term "avitaminoses"; which is to say, pathological states determined by depriving the organism of its needful vitamin. Another, more general, name he bestows upon this group is, "deficiency diseases."

In support of Funk's theory, the results of experiments show that, first, vitamin is found in the skin of corn and rice and, where either of these are "milled" and the husk is removed, beriberi or pellagra follow its use as food; while, on the other hand, when the grain is not "milled" (or, we might say, "bolted"), but the husk or bran left as part of the corn or rice, pellagra does not occur.

This theory is new and in the experimental stage, but to my mind it proves that pellagra is an intestinal disease and that the food we eat has a great deal to do with its production, or, I might say, is an etiological factor. It proves to me also that pellagrins should eat only unbolted meal and "unmilled" rice, or none at all.

As to whether the disease is infectious or contagious, this may well come under the head of etiology. I believe most writers on the subject claim it is neither the one nor the other, but my experience and observation incline me to the opinion that it is one or the other, or maybe both.

During the past winter, a negro woman came north from south Mississippi, where the disease is prevalent, and moved into the house with her parents, where there was a large family. The woman was in the third year of pellagra and died in a month or two after reaching this section.

None of her parents' families had the disease before she came; however, during the spring and summer, in four members of this family the disease developed. If the noninfectious and noncontagious theory is correct, how can we account for the disease appearing in this family?

Again, my experience has been that, when it appears in a family, the disease is rarely confined to one member alone. True, we can say that this does not prove either infection or contagion, as the whole family are presumably exposed to the same disease-breeding conditions; nevertheless, this cannot be contended where the disease is brought into an apparently healthy family by someone who has not lived with or near the family and had the disease before he came into the circle.

It is a fact well known to all of us that, unless we can trace the origin of a pathological condition and discover the cause of this condition, we can not intelligently treat the sufferer.

As to the treatment of pellagra, I believe the majority of the profession are of the opinion that arsenic in some form is the true remedy. Why they think so (except from experience), I have not been able to learn. My old friend Dr. J. W. Gray, of Clarksdale, Mississippi, is very successful in treating pellagra with tincture of opium.

I myself have treated several victims this season with Fowler's solution and tincture of opium, in connection with a free vegetable and fruit diet, withholding corn (in any shape) as much as possible. So far, my patients have recovered. Whether the disease will return with the next spring is to be seen.

As I am strongly inclined to the opinion that the cause of the disease is a toxic poison in the digestive tract, I believe an intestinal antiseptic is indicated, and I had resolved to give calcium sulphide a trial in my next case. I fondly imagined that this idea was an original creation of my own fertile brain; before I had an opportunity to apply it, though, I read an article in a medical journal in which this remedy was lauded for that very purpose. I now have (August, 1914) a negro child, aged three years, sick with the disease, and I am giving the remedy. I am watching results with a great deal of interest.

In a recent issue of a medical journal, a writer says that "good results are also said to follow the use of living Bulgarian-bacilli cultures."

"Dr. Wm. L. Law says that in the last five typical cases of pellagra he has treated he has prescribed the Bulgarian lactic-acid bacilli in tablet form, two tablets being taken half an hour before each meal and at bedtime. He further tells us that the improvement in appearance and subjective symptoms

of these patients warrants this preliminary report."

After reading all the literature upon the subject I have been able to procure, I have come to the conclusion that the only reason any of us can give for using the remedies we do in treating pellagra, is the one given me by an old doctor friend of mine, many years ago, when I asked him just why he prescribed certain remedies in his treatment of pneumonia. Said he: "Because they do good."

Aside from all theories or science—and both are greatly to be admired—is it not the duty of every physician to prescribe those remedies that, from his own experience or that of others, he knows will relieve his patient? Is not the experience of all of us in treating pellagra good evidence that none of us are as familiar with the medicinal properties of the drugs we are administering as we should be? And, then, should not this experience be an incentive to every one of us to study therapeutics and learn all there is to learn of their curative properties?

H. C. Buck.

Friars Point, Miss.

[Unfortunately, Doctor Buck's conclusions regarding the empiricism of all our methods of treating pellagra seem to be correct. Not knowing what causes the disease we have to proceed in an experimental way, and if our success is not all it should be this is not to be wondered at. In this connection I want to call attention to some work recently done by Goldwater, of the Public Health Service, who believes the disease to be of nutritional origin. This supports the hypothesis of Doctor Pixley, of Winnsboro, South Carolina, who has written upon this topic in Clinical Medicine, and feels sure that proteid starvation, plus excess of fats in the foods, is at the bottom of the trouble.

There are simply "scads" of alleged cures for pellagra. Of course they all fail at times—most of the time, some would say—yet there are a few which are being much used, with apparently good results. Among these we may mention calcium sulphide, first recommended by Mizell; the intestinal antiseptics, as urged by Bowling and Torbett; the arsenic preparations of various kinds—which, however, seem of indifferent effect; and quinine hydrobromide. The last-mentioned remedy has recently been recommended by Isadore Dyer, of New Orleans, who, in his address before the Texas State Medical Association, stated that he had treated one hundred cases with this remedy without losing a single patient. An abstract of this address will be found in the "What-Others-Are-Doing" department, this issue, page 1002.—Ed.]

SOME CASES OF PELLAGRA: HOW THEY WERE DIAGNOSED AND TREATED

I shall in no wise attempt to review all the theories and discussions regarding pellagra that have been printed, but will tell my own little story as plainly as I can, supplying illustrations to make my points clear and presenting cases in which there were cures, as well as fatal terminations.

Pellagra is a known entity, but an unknown quantity; it is tropical and semitropical in its scope, and spreads into almost every climate and flourishes in almost every country, especially in this of ours. What it is, is not told, and where it is, is evident.

A victim of true pellagra, when well developed, is a hideous sight. And how is it diagnosed? By an eruption on the hands, feet, face, neck, and back like unto sunburn, appearing on the exposed parts first. It burns as a sunburn under the direct rays of the sun, and it appears at the beginning or during the hot season of the year, or from April to November, usually first appearing in May, June or July, and each succeeding year coming on earlier and remaining longer.

Now, the sunburn which grows "scurvy" and dark, sometimes underlaid with pus, makes us call it pellagra. What did we have before the sunburn appeared? Pellagra? No! Neurasthenia? Eczema? Hysteria? Is it not presumptive, that if we have pellagra last we had it at first, minus the skin symptom? Then, if we had it at first, have we not on hand many cases without the skin symptom? Look about you, brother; for, an early diagnosis is all-important in curing this disease. Indeed, I find the recent cases are very amenable to treatment, and that treatment is rational and almost specific—more so than quinine in malaria, since not all these victims are cured with its specific quinine, no matter how administered.

Let us look at our cases of pellagra and trace the symptoms, using as an illustration some very interesting cases treated by me. An old gentleman began by telling how he felt five or ten years previous to and dating up to July, 1911, when I saw him. He was sluggish, had a peculiarity to himself, was constipated most of the time, had indigestion, liver was inactive, had lost virility, was quarrelsome, had cachexia, skin of a

bronze character, dimness of vision, weakened memory, friends seemed foes, kidneys were wrong, appetite was absent or perverted, craved salt, and in 1910 he had sunburn and diarrhea; but, he was getting somewhat better that fall, only to have it begin again next February.

I first saw him in June, when he was almost bed-ridden, had incessant enterocolitis, which was pronounced tuberculous by other physicians, while the sunburn was called eczema. He was given up to die. He had three lumps in the abdomen and wanted me to lance them.

My microscopical finding of the feces showed intestinal parasites, most of which were ankylostoma duodenale and ascaris lumbricoides. When I told him so he laughed at me. The results of my treatment on the homeopathic scale made me feel as if my microscope had made me lie, so I gave thymol in 1-dram doses, and then gave santonin, a 3-grain dose. This dose of santonin did no good. I gave 4 grains, but to no avail. I gave 6 grains of santonin, and the worms began to wake up, so much so that the fellow "pulled many out of his nose and mouth"—meaning the ascaris lumbricoides. Then I gave him 6 1-2 grains, and he passed a half gallon, and the lump he wanted me to lance in his "stomach" disappeared and his pellagra also. And so it was with most of his family of seven.

Two of the family, girls, died before I could obtain results, because of playing with the disease or too small dosage; for these were my first cases. The remaining 5 in the family have had no treatment for pellagra since 1911 and all are well today—except that the wife must have a fibroid tumor removed next Monday.

In all, I have treated some 30 victims, and now have 12 new cases on hand who are doing nicely. Not all have the hookworm or ascaris lumbricoides, or any particular thing, but they do have an infected alimentary tract.

It is a trouble which has an affinity for mucous membranes and epithelial cells or surfaces and at first seems to deal only with this part—or embryonic tissue—and directly and indirectly. Directly, by the cause in the gut, and indirectly on the skin, through the sympathetic system; but the effect is intoxication, and to be intoxicated there must mean an intake of toxins, or an absorption of putrefactive or toxic material intaken, or putrefied and absorbed in the alimentary tract, or the improper absorption of food intaken, or an interfered drainage and retention of waste, or end-products in the body-chemistry.

Now, again, all these patients here have a living foreign body in the alimentary tract, and these denude the intima of the bowel, cause the mucous surface to weep, and destroy the function of the lacteals, the peptic and acinous glands of the stomach; the bile and pancreatic fluid are *nil*, and the intake of nourishment becomes a foreign body, putrefies from the intake of bacteria not killed by nature's defense, the juices secreted and excreted by the intestines. The consequence is, a saprogenic condition, or bacteria preying on dead material and nematoids on live material, the gut, and, instead of the food being sucked up by the little lacteal pumps, this mess of rot is being absorbed by a denuded surface. Instead of its going directly into the receptaculum chyli, it goes directly into the blood and lymphatic streams and the condition becomes akin to sapremia, yet is not.

Why does the disease show like a burn on the surface? Through the sympathetic nerves and starvation. A severe burn causes death in three ways, and one is, sloughing and hemorrhage of the duodenal glands. Then, if a burn will cause this, what will sloughing or aggravation to the duodenal mucosa cause on the surface?

Then, with a denuded bowel surface, blocked bile and pancreatic ducts, with a foreign body, either living or dead, or both, to keep up trouble, and destroyed lacteals; what would be the result? Everything—and a pellegrin has everything sooner or later; and the severity of the disease depends upon the severity of the destruction and degree of toxin absorption.

One victim I have had on hand for seven years showed the sunburn only last summer, also the diarrhea, and then became demented, Did this woman have pellagra seven years ago? Sure! She is a mulatto, mother of seven children, and her last pregnancies were accompanied by various severe symptoms such as kidney trouble, hysteria, and so on. She formerly was severely constipated—an early symptom in most cases—and had the sunburn only last year. Finally she became insane. Two of us signed for her to go to the asylum, but her husband protested, and now, July 15, 1914, to my astonishment, she is not insane, nor has she diarrhea or sunburn.

I have seen the severe sunburn in many of my cases, and constipation instead of diarrhea;

or severe diarrhea with only a slight eruption. Several victims have had cholelithiasis. I think there was just inspissated bile and no calculi; for, since they have gotten well of the pellagra there are no more gallstone symptoms.

The blood shows depravity and inflammation or irritation somewhere, and that somewhere is in the bowel. Hemoglobin down to 40 percent, red cells decreased and the leukocytes somewhat increased, or relatively so, with the mononuclear cells increased. There was no hydrochloric acid in the stomach at any time, or only in small quantities, because they are almost, if not quite, chlorine-free; having one of the chemicals destroyed and thereby the body-chemistry thrown out of balance. The mere inspection of these patients will show they are out of balance. The mental indifference is a constant symptom. There is a catarrhal condition of all the mucous (epithelial) surface sooner or later. Patients are careless and unconcerned about themselves and would as soon die as live, except the children.

Then, again and again, if you block the avenues of secretion, excretion, and absorption, and besides introduce foreign poisonous bodies, as in this disease, what will be the consequences?

A. L. NASON.

Maben, Miss.

[Doctor Nason's ideas and his methods of treatment are most interesting. We hope others will investigate pellagra along the same lines, though we want to offer a word of warning concerning the use of santonin, which in large doses may be toxic. Also, we take this occasion to call attention again to two other remedies of proven value—calcium sulphide and quinine hydrobromide. See the comment on Doctor Buck's article just preceding this one.—Ed.]

HOW TO CURE UMBILICAL HERNIA IN BABIES

For fifteen years, in treating umbilical hernia in infants, I have applied a cotton roll and bound it down with adhesive straps. Unfortunately, when the straps were removed, they took the baby's delicate skin with them. The button treatment has failed in my hands.

An important case came to me some time ago, but the hernia soon recurred. One year later the parents told me that a nearby colleague had cured "baby" with an "air-cushion" rubber umbilical truss. I began its use, and this simple device has never failed me since. It gives no annoyance to the baby and one one-dollar truss will effect a cure. These trusses can be secured from any physicians' supply house.

J. B. DUNHAM.

Wenona, Ill.

WHO HAS HAD EXPERIENCE WITH GELSEMININE?

Dr. John M. Shaller, of Cincinnati, who of course is known to every reader of this journal, makes the suggestion that we ask our readers to tell of their experience with the alkaloids of gelsemium (gelseminine and gelsemine). These communications should include the citation of cases, reasons why the drug was administered, what symptoms called for its use, and what were the results, good or bad.

We herewith pass this request along to our readers and urge that everyone having information to offer be sure to write us, giving fullest possible records of their experience with this remedy. Gelseminine we consider one of the most valuable of the alkaloids, and we want to know to what extent our readers agree with us.

THE RED CROSS APPEAL

As doubtless every reader of this magazine knows, the American Red Cross society has already fitted out one ship with supplies for the sick and wounded of the European battlefields. Thirty-three surgeons and 127 nurses have been sent abroad. The calls for help are many, and to keep the work of relief going much money will be needed. We print herewith the appeal of the Red Cross War Relief Boards.

During our war with Spain thousands of dollars were sent by the European Red Cross Societies to the American Red Cross to aid in the care of our sick and wounded soldiers. Now, in the hour of their supreme need, the American Red Cross, both for the sake of humanity and to express our gratitude for their aid to us in the time of trouble and distress, has decided to charter a ship and send to each country involved, doctors, nurses and hospital supplies.

This ship, sailing under the Red Cross flag, will be under the protection of the Treaties of Geneva and The Hague, and can enter any harbor for the discharge of its beneficent duty. In no other way can this trained personnel, so greatly needed, reach the different countries. Protection is provided also for the personnel of the Red Cross Societies of neutral states that render aid by the Treaty of Geneva. The American Red Cross appeals most earnestly to all of our people; to the governors of states, as

presidents of the Red Cross state boards; to the Red Cross Chapters, to mayors of cities, to chambers of commerce, to boards of trade, and to all associations and individuals, for contributions to carry on this work. Contributions may be designated by the donors, if they so desire, for the aid of any special country, and will be used for the country designated; but assistance will be given to all, in the true spirit of the Red Cross represented by its motto, "Neutrality—Humanity."

Grieved as we may be over this terrible war, the agonizing cry of suffering men cannot appeal to us in vain. The American Red Cross asks for a prompt and generous response. Contributions may be sent to the American Red Cross, Washington, D. C., or to state and local treasurers of the Red Cross.

NOVEL TREATMENT FOR HEAD-LICE

Dr. Edward G. Hutterer, of Sanborn, Iowa, referring to the various articles that have appeared in CLINICAL MEDICINE relative to the methods of destroying head-lice, writes to say that he wants the members of the "family" to try oil of anise. He declares that a little of this rubbed into the hair will "fix them," sure. However, as a rule it may be best to dilute the oil a little, since otherwise it may cause some burning of the scalp. The application will destroy not only the lice, but the nits also. We pass this suggestion of Doctor Hutterer's along to our readers, with the request that all having an opportunity give the anise-oil a fair trial and report through these pages.

EMETINE FOR HEMORRHAGE

No doubt many problems confront members of the profession daily, the solution of which requires considerable attention, but I am free to confess that among our various perplexities the ones that have given me the greatest concern have been in the treating of hemorrhages. At present, I wish to report several interesting cases successfully treated with emetine hydrochloride.

The first patient was a baby boy 14 months old, suffering from an infantile form of scurvy (Barlow's disease) following the prolonged use of condensed milk. The child had lost considerable weight and was anemic, showing a count of 3,900,000 red blood-cells. The tongue was slightly swollen, the lips were dry and fissured, the gums were quite spongy, but at this time showed no signs of bleeding even when rubbed. The skin was dry and pale, with ecchymotic patches, beginning on the dorsum of the foot and extending over edematous ankles almost to the knee.

Owing to the child's extreme weakness, emaciation and diarrhea, my attention first was directed toward regulating the diet. The mother had been unable to get anything to agree with the child. Food was withheld for forty-eight hours, the bowels were cleaned out, and Bulgarian bacilli tablets were given freely. I tried modified milk, but the child was unable to digest that, and it grew steadily worse. The diarrhea was aggravated, and there occurred slight hemorrhages from the bowels and nose. Calcium chloride and calcium lactate were given, to increase the coagulability of the blood. The hemorrhage from the nose became alarming. An anterior pack soaked in adrenalin chloride temporarily stopped the bleeding, but it was only a short time until I was called back and the posterior pack was put in. This was efficient for a brief period, but the hemorrhage from the bowels grew steadily worse. At this time the blood showed R. B. C. 1,900,000. Hydrastinine and ergot were of no benefit.

I was familiar with emetine for the treatment of amebic dysentery and knew that tuberculous hemoptysis had been successfully treated with it (Flandin and Joltrain, *Gazette des Hôspitaux*, April 17, 1913). I gave, as a last resort, emetine by mouth until the baby began to vomit. As a result, the bleeding had entirely ceased within a short time.

Another case was that of a girl 19 years old, who had extremely severe nosebleeds. On several occasions the posterior pack was necessary to control the hemorrhage. The blood-vessels in Kiesselbach's area had been cauterized, and calcium and also hydrastinine hydrochloride were given; but the hemorrhage continued. Emetine given to the point of nausea immediately stopped the bleeding.

LANNING E. LIKES.

Lamar, Colo.

IS PELLAGRA DUE TO AN INTESTINAL PARASITE?

I wish to report to the medical profession an animal parasite found in the feces of pellagrins. This parasite appears in six different forms, only one or two forms being noticed in most of the specimens examined. The first and most frequent form is that of a very small black organism, oval in shape, which develops into a second form, that of a coccus which is light in color and has a distinct capsule. This form is about one-thirtieth as large as an ameba. The third form is an elongation of the second into a

club shape. Fourth, is a bacillus developing from the second and third. Fifth, a spirillum developing from the second, third or fourth form. Sixth, a pigmented spirillum breaking up into dozens of the first form. In all these the parasite is motile, and development from one form to another has been seen. Only in advanced cases of pellagra that have had very little treatment do we usually see all of the above forms.

The parasite has been associated with severe cases of dysentery for the past three summers, two of the patients having died later of pellagra. It has been found in the feces of a second case of pellagra developing before any clinical symptoms except dysentery had appeared. I have found the parasite in twenty-three different cases of pellagra examined. Repeated examinations of feces of healthy individuals lead me to believe that the parasite is not an inhabitant of the normal intestine.

B. W. PAGE.

Lumberton, N. C.

THE ACTIVE PRINCIPLES OF THE HYPOPHYSIS CEREBRI

Some years ago Houssay, of Buenos-Ayres, obtained a crystalline substance from the pituitary body; but this was not isolated in a state of purity. Later, Baudouin and Choay (*Soc. Biol.*, May 31, 1913) obtained a white crystalline product much purer than that isolated by Houssay and preserving all the physiologic properties of the pituitary gland; 200 Grams of the fresh gland yielding 40 Grams of the dried extract, and 80 milligrams of a crystalline active principle.

The latest work on the subject is that reported by Fuhner (*Deut. Med. Woch.*, 1913, No. 11). By an elaborate process, this investigator has been able to isolate from pituitrin a long series of crystalline substances, the four principal ones of which are:

(1) A crystalline body possessing the typical action of pituitary extract on the blood pressure, while its action on the respiration and on the uterus is feeble; (2) a body having a strong action on the blood pressure, uterus, and respiration; (3) another body, having a powerful action on the blood pressure and respiration, but most powerful in its action upon the uterus; and (4) a body which has only a feeble action on the blood pressure and respiration, while its uterine action is powerful. In addition to these, four other crystalline bodies have been extracted which have no demonstrable therapeutic action.

While these bodies separately have not been found to be superior therapeutically to the pituitary extracts, the fine chemical work of Fuhner certainly is most interesting. Altogether, although the pituitary body (or its extracts) exerts a more or less decided action upon blood pressure and respiration, thus far its best field of utility seems to be as a stimulant of the uterine muscle.

FROM A TRAVELER IN AUSTRALIA

Kentucky hospitality, through the eyes of my boyhood, was something not to be excelled. Both of my parents were Kentuckians, and in my early youth I heard much and often of this great characteristic of the home of my ancestors, and on several occasions I had opportunity to taste of the same. Alas! I have lived to see Kentucky hospitality outdone.

Arrived in Australia to attend the annual meeting of the British Association for the Advancement of Science, I, being a "distinguished visitor from over seas," was given a first-class pass—including sleeper and, in some instances, meals by the government—over all the government railways in the colony (about 19,000 miles), and good for six weeks. "Wouldn't that jar you?" Besides this, I was given free entertainment for a week in each of the four capital cities. Everything was opened up to us, the overseas members. Some cities gave us *carte blanche* to their street-car systems and to many other things; in fact, to almost everything.

The Association spent a week in each of the four largest capital cities. At each place we were given a reception by the governor and the mayor, and by many other individuals or societies. The week-ends were always devoted to excursions in the vicinity of the city where we happened to be. Provisions were made for some ten or fifteen of these excursions, so that one could choose the one which best fitted his tastes. And all of this in spite of the fact that the country was involved in the war of the Empire. The visitors chanced to arrive simultaneously with the declaration of war against Germany. Had it come a month sooner, it would have spoiled the meeting to a great extent. As it was, the visitors were here, the arrangements were made, the money had been collected. Of course, the war cast something of a damper over the meeting; dancing, for example, was cut out. But, as Sir Oliver Lodge, the retir-

ing president, said, "had the hospitality been greater, we never should have survived it."

To show the true state of Australian hospitality: Several German university professors had been invited to attend the meeting as guests of the Association. They came just in time to learn about the declaration of war against their country. Nevertheless, they were shown every consideration and even special honors, for, in science all men are brothers at all times. Every effort was made by everyone to make the delegates from Germany feel at home, as no doubt they wished they were.

At the house where I was entertained in Sydney, there also were as guests a German and a Russian, while the host and hostess were British. The German and the Russian dined at different times, but occupied the same chair at the table. In the presence of the German, the others carefully refrained from war-talk, though full of it. Two of the Germans were reservists, but the Association interceded with the Government to allow them to depart in peace by way of Java; which they did. They were unable to draw upon their home banks, so, the Association volunteered to sustain them till they could hear from their bankers.

The Australians are a free and open-hearted people, and not so conservative as the English. They are very loyal to the Empire, an Englishman told me; much more so, in fact, than the British at home. You can hear that pure cockney English here just as one does within the hearing of Bow bells. Although this island continent is located at the other side and other end of the world from home, Australian hospitality has made me feel very much at home; still, it has not freed me from the wish that I were back at home.

Australians are quite English, "you know"; nevertheless, like ourselves, they are making numerous radical changes in the King's language. The good old English word "paddock," which in England means a small lot or field of an acre or two, in Australia is used to mean anything up to ten thousand acres. But, then, Australia is a big country. The word "mob" here denotes cattle, sheep, horses, in the sense that we speak of flock, drove or "bunch." "New chum" is equivalent to our tenderfoot or the Hawaiian "malihini."

Railroads, in Australia, all belong to the government, or, rather, to the state. Each state of the Commonwealth has its own road and its own gauge. One must always get out and change trains at the state line; which, to say the least, is something of a nuisance. The states are trying to come to an agreement in the matter of gauge.

Australia is about the only country I have been in in fifteen months' traveling where not everybody is hoping some day to get enough money to leave for America. Australians are pretty well satisfied at home. They certainly have one thing in abundance, and that is room. The distances are truly magnificent. An ordinary ride to a neighboring city is one of eighteen to twenty-four hours by train.

Winter in Australia is a farce. I have not seen snow or ice here, though I was here through one winter month and a part of another and have several times been at an elevation of 4000 feet. At the beginning of August I saw the fruit-trees blossoming, after having a little while before seen them in bloom in April and May in Japan. Most trees keep their foliage all winter. There are a great many palms and other tropical growths found in all latitudes of this country. Many people in Melbourne, Sydney, and Adelaide have never seen snow, though they have lived there for a generation; although snow can be seen on some of the highest of the mountains.

For all that, I have suffered keenly from the cold in Australia. People here do not prepare for cold weather; ordinarily, houses, hotels, and public halls and places are not heated at all. There is no preparation for heating, and an American will become thoroughly chilled if he sits quietly in one of these unheated rooms for an hour or two. We Americans, of course, overheat our houses; but the Australian underheats, or, rather, does not heat at all, as a rule. In some houses and in a few offices or hotels you will find an electric heater that looks very pretty.

Speaking of fire, brings us to fuel—and fuel here ordinarily consists of wood. Australians, as do we of America, although longer settled, are ruthlessly destroying their forests. However, this timber is poor, at best; the trees being thin and scraggy. All through the country you see trees which have been "ring-circled"—we call it "deadened." They do this so that the grass, unshadowed, will grow better. When time permits, maybe years later, these trees are cut down and sawed up for fuel or lumber. They should be planting trees instead of ruthlessly and wastefully killing them. Australia needs men, moisture, and forests. The third of these factors causes and controls the second. Why should

men who see how dry Australia is destroy what helps to bring moisture to the soil?

Australia, geologists tell us, is the oldest land, geologically speaking, on the globe. Mount Kosciusko, Australia's highest peak (6000 feet), was the first plot of old Mother Earth to rise from out of the flood. Geologists attending the British Association for the Advancement of Science reaffirmed this fact.

Australia may be an early riser, but she is slow in one respect. I have seen more whiskers in Australia than in any other country, except Russia. The people that wear whiskers in this aseptic age are backward in a sanitary way. I do not wish it to be inferred that Australia has not taken a bath since she emerged from water eons of ages ago; her men, though, should shave. The young ones do, the old and middle-aged, however, often do not.

I was surprised to find one capital city, Brisbane, which practically has no sewerage system—using the pail system, as they do in India, China, and Java. They are talking of remedying the matter; but they should have done so many years ago. Returning to whiskers—the King George style are popular; so are the President Poincairé ones. One meets a few Abe Lincoln's and an occasional Paul Krueger, while General Salvation Army Booth's are quite frequent among the aged.

What do whiskers have to do with whisky? I do not know; still, there is more whisky and other strong drink, also weaker brands, consumed in Australia than in any country that I know of. The drink-question here is much what it was in England thirty years ago, and that was bad, much worse than at present.

I have seen more sheep in Australia than ever in my life; they count their sheep here by the square mile. Everything is big here. I have traveled 6000 miles by rail in Australia, and then have seen only a small portion of it. It is nice to have a pass. I haven't had one since I was a boy and in the newspaper business, in those good old days when everybody about the newspaper had a pass. What is worrying me is, the thought of those other 13,000 miles over which this pass was available but which I could not reach.

Federal election day in Australia was on September 5. It was very quiet, the war overshadowing all else. However, the Labor Party won out as usual. An interesting thing was, the voting-booths at prominent railroad-stations, so that the traveling-man could vote while he was traveling; thus not depriving him of his vote because of being obliged to be away from home.

The poet who said that Australia is a land of "bright scentless flowers and songless bright birds" was wide of the truth, even for this wide country. True, both kinds are here, but there are many other flowers and birds that deny the allegation. I was surprised to find the trees and forests full of parrots; so full, in fact, that boys are hired in the fruit season to shoot them—they are such a menace to the fruit crop. Indeed, parrot pie is one of the delicacies.

Rabbits, foxes, and prickly-pear are three scourges, having been introduced into Australia and then having multiplied beyond all reason. The foxes eat the young lambs and the poultry, the rabbits kill the fruit-trees, and the prickly-pear is taking the country. The eradication of these three pests is a great problem.

E. S. McKee.

Cincinnati, O.

THE MEDICAL DOXOLOGY

I wish to express my pleasure in being here tonight and having been placed on the program with the good fellows who have preceded me, and whose speeches have been so enjoyable.

Webster defines the word "doxology" in the words, "opinion, glory, praise," and adds that it is usually applied to a short song of praise to God. Therefore, when you sing the doxology, you express your opinion and give glory and praise.

My opinion of the medical profession is a private matter. My opinion of the men, and the women too, of the profession, is grand and exalted. I know men in our ranks who are as proud as Lucifer, as bold as a lion and, yet, as gentle as a woman, men of great wisdom, high character, honest intentions and ideal lives; men who would give honor and uplift to any calling to which they might belong. And I believe that if every good doctor were also a good Elk, the Elks would be absolutely the best people on earth.

As to glory, we can proudly claim our share brought to us by and through McDowell, Dudley, and Pasteur, and many other noble souls who have given their lives to and for the medical profession.

As to praise, that is scant. There is little praise for the individual or for the mass of medical men. In fact, there is more praise in the profession than out of it. I mean by that, that one good doctor will praise another

doctor far more frequently than does any layman, and will do it honestly and with the best of sentiment. Only now and then you will find an honest soul who will praise the doctor who has served him well. But they are few and as hard to find as gems in the depths of the ocean.

The doxology comes at the end of things, at the end of the sermon; and my speech comes at the end of this royal feast and it seems to me that the Creator had an eye to the end of things..

There was an end to Creation itself, and when it was finished He rested from all His work. There is an end to the verse, an end to the chapter, an end to the book. There was an end to Napoleon's dream of empire. There was an end even to the beautiful sermon on the mount. There was an end to the material glory of Solomon's temple, and an end to the still more glorious reign of King Solomon himself.

And I believe that the angels and the archangels and the redeemed of men will sing the doxology at the end of time.

There will also be an end to the arduous practice of medicine, and the chosen few then left will indeed and in truth sing the doxology of medicine.

It will come through higher education, through sanitation, through preventive medicine, through the *alkaloidal* and serum treatment of diseases.

And, way along down the aisles of time the anxiety, the dread and the trouble of the practice of medicine will grow lighter and lighter until the advent of the glorious dawn of the millenium—when there will be no more sickness and no more death.

J. A. FREEMAN.

Crestwood, Ky.

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[The preceding article we reprint from *The Kentucky Medical Journal*, of August 1.—ED.]

MORE ABOUT LATENT EYESTRAIN

Much has been printed in recent years in publications of every description, professional as well as lay, regarding the hurtful influence that errors of refraction exert upon the mental and physical wellbeing; but, the discussions confining themselves almost altogether to subnormal vision, so very little has been said about latent defects that this phase has passed almost unnoticed. A refractive error of half a diopter, yes, even of a fourth, is credited with producing all manner of ills, from headache to hysteria, hallucination, and epilepsy.

As already stated, much comfort is experienced from the correction of visual errors; however, it is not the refractive errors of any amount that could produce such ills. It is not what the eye may manifest, but what it is able to hide, that acts as the cause.

Eyes which maintain normal vision not only may have defects of a high degree, inclusive of the oculomotor muscles, but often manifest, on account of strain and spasm, the very opposite of their true defect.

When finding irregularities in any of the eye-muscles, one must look for still further defects, defects that will become manifest slowly during the course of a long period of treatment. It is this and the reverse class from which the most serious nervous disturbances take their origin, and not the manifest errors. It has also been proven clinically over and over again that latent defects may exist to a high degree and, yet, be undiscoverable by the use of mydriatics.

The socalled correction of muscular imbalances must not be confused with the method of repressing abnormal innervation; for, one is not a modification of the other, and, although both methods of treatment are through the medium of the eyes, it would be as absurd to confound them with each other for that reason, as it would be to confound the different schools of medicine because the remedies are applied through the medium of the mouth.

It has been quite generally believed that, if a muscular imbalance is found, it should be corrected with prism 1-4 to 1-2 of the amount found. But this procedure is absolutely erroneous, since the muscular imbalance cannot be determined by any diffusion-test whatever, because the amount shown may be only a small part manifesting itself, or it may be a reverse manifestation altogether, or no muscular imbalance may show at all and still be present to a high degree.

It is obvious that in defective eyes a continuous effort is made to see as perfectly as possible, and when necessary the nerve-centers innervate to their utmost power the various muscles, thereby causing a change of shape in the crystalline lens, which stretches or shortens the recti muscles. As the eyes are anatomical cameras, the visual center of the brain endeavors to obtain a clear picture.

When all the facts are considered, we can readily see that we have more or less firmly fixed conditions that will recede only gradually

and thus permit the eye slowly to assume a normal state. The tonus of the muscles not being rigid, it therefore is impossible to correct the same at once by fitting such glasses as produce the most perfect vision. Such procedure very often is incorrect, inasmuch as it stimulates the maintenance of abnormal conditions that as soon as possible ought to be discovered and corrected.

For this reason, many people experience great and repeated trouble in their desire to have their vision properly corrected. They pass on from one professional man to another, and each correction received proves but temporary, although it is probable that each correction was made scientifically and remedied all the errors that the eyes manifested at the time of correction.

Eyes that are capable of prominently manifesting their defects are more or less at rest when not in constant use at near point by reason of indistinct vision; whereas absolutely latent eye troubles have no such periods of relief.

Many people with good vision become very much exhausted and nervous or perhaps sleepy from the use of the eyes for only a short time in close application or where constant attention is required, as in a theater, and some are more exhausted by one hour of such effort with the eyes than they would be by many hours of actual labor or after many miles of walking or climbing.

The reason why so little, so far, has become known concerning latent eye defects and the treatment through the sight-centers is, that our observations have been—too much so—confined to manifest defects (and these at best represent but a very small percentage of the disturbing conditions); and, further, because scientific fact often is slow in becoming established. And this may be especially true in a field of preventive as well as curative practice, when we consider that the science of refraction was still in its infancy not so many years ago.

It is also common and natural to travel in beaten tracks. New theories, however, are valueless unless they give proven results. It is given to but few to establish new truths, and it has not been given to me so to do. Therefore I could not add anything new to the subject of latent defects that has been told in the works of Dr. Chalmers Prentice. The only new material I could add thereto would be reports of my own cases, but these would be new only in point of view as additional reports, and not new as to conditions and results obtained.

The tendency in life is either to exaggerate or to minimize.

The hypochondriac often simulates diseases and makes fanciful claims. Then there is another class, with whom the pendulum swings to the extreme in the opposite direction. He will deny all pain and, admittedly, thereby lighten his burdens considerably. This, of course, works best in those who have no derangements whatsoever. However, while we admit that the mind influences the body, we deny that an ill body which also produces a tired and fagged brain is capable of thinking clear, logical thoughts, and much less can cure bodily ills by denying their existence.

We admit that nerve-force wasted through improper functioning of the eyes depletes the nervous system, but we deny that the best-fitted glasses are all that is necessary.

ADOLF TSCHUMI.

San Francisco, Cal.

THERAPEUTIC USES OF PILOCARPINE

While making some studies, in 1874-5, at the great Misericordia Hospital in Rio de Janeiro, Brazil, I found its staff making use of a plant native to that country, jaborandi. An attack of yellow-fever interrupted my work, and, so, I had not the honor of introducing this important drug to the medical profession of my country. The remarkable powers of this new drug aroused considerable interest at the time, but, in common with all other articles of the materia medica, it has been allowed to fall into neglect. Nevertheless, we have in this plant a remedy of too great and powerful properties to be thus cast aside.

For a time jaborandi met the same difficulty that has ever stood in the way of a really scientific therapeutics and left us now, after thousands of years of medical practice, in an archaic state, similar to that of metallurgy before the days of Tubal Cain. The preparations of this plant were like all the other plant-preparations—uncertain in composition, strength, and activity, so that some specimens exercised an influence over the body functions diametrically antagonistic to that exerted by other preparations of the same plant.

This difficulty has been dissipated by the chemist. We now know that the powers of jaborandi reside in two groups of alkaloids, the antagonism of which is phenomenal even among the plant-principles. While the pilo-

carpine group powerfully stimulates the secretion of sweat, saliva, mucus, ear-wax, and breast milk, the jaborine group exactly reverses this action and dries up those secretions.

The preponderance of either group depends upon conditions of the plant's growth, such as light, moisture, soil, temperature, time of gathering, and so on. The only way to know what the drug would do was to try it, not on "the dog," but on the patient; a very undesirable method, since jaborandi often was employed in cases demanding instant and decisive therapeutic intervention.

The therapeutics of jaborandi is at present that of pilocarpine. The other alkaloids of the plant are unknown to the clinician. Some day we may rake over the heap, "the tailings of the mine," and find there enough to repay us for the effort. Whether jaborine is to be classed with strychnine or with atropine is a question that probably could not be answered correctly by six clinicians in the world.

Two remarkable properties have been discovered for pilocarpine. The one best known is its power of inducing sweating. No sudorific compares with this alkaloid either in promptness and power or in efficacy as an eliminant. Give the patient hypodermatically a centigram of pilocarpine nitrate, and in from five to ten minutes a copious perspiration will start. Some persons declare the exudation is so free as to run through the bedding. This action is favored by rest in a warm bed.

In some cases the drug exerts its powers more particularly in causing a flow of saliva rather than stimulating the sweat-glands. This must be credited to individual peculiarities on the part of the patient. The stimulation of the other secretions is less powerful, but not less certain.

Few observations have been recorded as to the effects of pilocarpine upon any other secretion except the perspiration; however, this one seems to have some significance:

A stout, powerful Irish woman had never been able to nurse her children, the milk being scanty. She was given small daily doses of pilocarpine and soon had a sufficient supply of nurse for her babe. In a short time, however, she requested me to have her placed in confinement, as she felt an irresistible impulse to kill her husband with an ax. I stopped the pilocarpine. The flow of milk ceased, and with it the homicidal impulse subsided. This observation has found corroboration from a Siberian physician, who recorded a case essentially identical.

As a diaphoretic, pilocarpine has been utilized in many affections where sweating is considered indicated. To break up colds, following febrile attacks, infections, or following exposure. The earlier the remedy is employed, the better are the results. This writer has employed this alkaloid for twenty-five years as a specific in sthenic erysipelas, never failing to find the malady readily controlled by it.

Curiously, pilocarpine is not a remedy to be given in minimal doses until slight dewiness on the skin betokens its action. No effect is manifested until a full dose has been taken, and then it is not moisture but a real profuse sweat that comes. But the erysipelatous flush at once begins to recede from its edges toward the point first attacked; and if the pilocarpine effect is maintained the dermatitis is extinguished.

In asthenic erysipelas, with pale eruption, little or no fever and pronounced debility, no such benefits are secured from pilocarpine, but the depression deepens. Fortunately we have in the tincture of the chloride of iron a specific for this condition, little if any inferior. Pilocarpine has not received enough credit as an eliminant of toxins.

Bouchard discouraged the use of diaphoretics when he called attention to the fact that normal perspiration was only one-tenth as rich in toxins as normal urine; ergo, a pint of urine removes from the body as much poisonous matter as will ten pints of sweat. But the perspiration induced by pilocarpine contains five times more toxin than the normal excretion; so that a quart of pilocarpine-sweat is equivalent to a pint of urine —and the former is far more easily, quickly, and safely secured. The problem of diuretics is one of the most difficult and complicated in applied therapeutics.

In another group of maladies, pilocarpine is specific for a symptom, that of pruritus. No matter what may be the cause of the itching, a sweat-inducing dose of pilocarpine stops it. If the cause is a continuing one, the itching necessarily will return, as, for instance, in permanent occlusion of gall-ducts with reabsorption. For the itching accompanying jaundice after gallstone-colics, a single dose suffices.

This action of pilocarpine may be attributed to its elimination of the toxic matters in the skin that irritate the cutaneous terminations of the sensory nerves in a manner that induces itching instead of pain. The poison is swept out of the system by the sudoriparous glands.

In those terrible infections that almost surely destroy life, tetanus, rabies, etc., pilocarpine has been suggested repeatedly. I have been unable to find records of any exhaustive tests having been made of pilocarpine in these maladies. It has been "tried," a few doses administered tentatively, timorously, then quickly abandoned for something else. In these mortal maladies therapeutics must be practiced with an energy and persistence commensurate with the conditions presented. There was a never-to-be-forgotten lesson in the case of the negro having tetanus who by mistake received one ounce of quinine at a dose—and recovered.

The other feature of the action of pilocarpine has received so little attention that few know of it. This alkaloid tremendously increases leukocytosis. It may well be that to this as well as to its elimination of toxins is due some of its effect in acute infections. At the beginning of acute infectious attacks the numbers of the invading microbes are fewer than after they have had time to multiply in the overwhelmed organism. If the leukocytic garrison should be energized and tremendously reinforced by this action of pilocarpine, the battle may incline to the defenders before the attack has fairly developed.

But this is theorizing, although a most enticing line of observation and reasoning is here presented. The values of pilocarpine are too decided to be overlooked, too great to warrant its neglect.

W. F. Waugh.

Chicago, Ill.

PRESCRIPTIONS AND POISONS

In your reply (September, p. 758) to the editorial in *Hearst's American*, on "Prescriptions in Plain English," you show a lack of appreciation of the capacity of the writer. You say, "Let him define a poison—if he can."

There is no limit to what that man of *The American* can do editorially. How medicine should be practiced; infant feeding; changing the course of the solar system; errors of the divinity, and how to correct them, any other topic in the world, possible and impossible, all can be, yes, have been, decided by this "Highest-priced editor."

Find the problem—the solution is easy. Having written the answer, it is sent to all the Hearst newspapers, with full instructions as to paragraphing and what few lines need not be blackfaced. The only thing in doubt about the thing is, just how severe a jar the entire country will feel.

The fault of this editor is incurable, because congenital. He thinks that he writes ex cathedra at all times, when often his work is ex cathartica.

Also, he has some grouch of long standing against the medical profession. This is not the first attack launched against us; by no means.

As to how drug-fiends are being created, here is one way. I am treating a man for the opium-habit, who contracted it by taking Sun cholera mixture for diarrhea. Finding that it had become a necessity to him from continued use, he looked it up in his wife's "Doctor Book" and, learning that it contained opium, he changed to laudanum, then easily procurable. When he started treatment with me he was taking a little more than an ounce of laudanum daily.

Another instance. Twice this week I have read in newspapers the voicing of the protests of druggists against the prohibition of the sale of paregoric, which "the mothers say their babies need, and which does no harm." Yet, a druggist told me the other day of a woman he knew who took 32 ounces of paregoric a day regularly.

A Doctor.

MEDICAL-MISSIONARY EXPERIENCES IN AFRICA

An article by E. S. McKee, entitled "Medical Missionaries," in the September issue (page 835), reminded me of my four years' medical work in Africa and why I became a medical missionary.

While reading some missionary magazine, when I was in my teens, I was horror-stricken by the terrible way in which the witch-doctors treated the people, and I said to myself that all missionaries should be doctors. And that thought so filled my mind that I started out to study medicine, with the sole end in view of going into the foreign field as a missionary. And I ended up at Batanga, West Africa, in the Cameroons, where war now is on between the British and German colonial forces.

My first night in Batanga was one of those rainy ones, such as are seen in Africa; where the rain comes down as though someone had just lifted up the bottom of the sea and let the floods pour in upon you. And it was just such a night when I was called out by the good colored elder of the church to go to a woman in confinement, living two miles

away. Needless to say that I could not call a cab, or just crank up a Ford, or jump into my closed-in carriage, or step into a street car; I just had to foot it through the woods or part of the way on the sea-beach on the hard sand where the tide was out far enough for me to cross the points, and over the rivulets which were made by the small streams.

After reaching the town of Bongahilia, I found my patient in a hut, on a trundle-bed (the beds are made of poles 6 feet long laid lengthwise in a corner of the room), with a smoking fire at the head—observe, at the head, and not the feet of the patient, as we should have it—and the house inside and out thronged with people, because they knew that the new doctor was coming and they wanted to see and hear what would happen.

I soon learned that the child had been born some hours before, but the placenta had not been delivered; and this was the cause of much anxiety on the part of the people. I told them that I should have to give chloroform and operate on her— — — —! Well, these dashes mean more than tongue or pen can express. When I said "operate," my words were interpreted by those who could speak English. What a commotion! To tell the truth, I felt like a cat in a strange garret; for, I did not know how to get out, for fear I should be torn to pieces or that the relatives would carry the patient away from me by force.

However, had I known what was in the minds of the people, I might not have said "operate"; for, they still remembered a sad story of the doctor who was in my place the year before, and who did a major operation and the patient died. And, so, they did not intend to let this thing occur again. Still, a little tact and presence of mind soon settled the question. I called the chief, who was also among the onlookers, and told him that unless I did give chloroform and remove the placenta the woman might die. Thereupon he ordered the "congregation" dismissed, and I proceeded, by the use of a lantern held by one of the elders (even though it gave but little light through the smoke), to operate. Fortunately, I had chloroform, but I had no cone or towel. So, I placed cotton in a tin cup and, holding it with one hand, with the other I removed the placenta.

The woman did well until the second day, when phlegmasia alba dolens set in; which, however, under proper treatment, subsided nicely.

Of course, this woman became my sign-post in that part of the black continent and did not fall down—as the little boy said when he ran into a saloon and called out to the saloonkeeper, on seeing a drunken man fall into a gutter, "Say, mister, your sign has fallen down."

My "sign" stood up, and, needless to say, this was the beginning of my medical work in Africa.

As a matter of fact, all missionaries are supposed to spend the first year in Africa in the study of the language, but I soon became so overwhelmed by natives from all parts for miles and miles around that I had to take the language, so to speak, by osmosis, along with my medical work. The first-year's record shows between 5000 and 6000 treatments, and the last year's between 11,000 and 12,000 treatments; and by this I mean that at my dispensary and hospital I gave, with the assistance of my four native assistants, that many treatments. And, as Doctor McKee speaks of his friend in Egypt, so it is with the medical man in Africa: he is *it* with the natives if he has made a success of one or two cases at the first.

I never shall forget my first case of pernicious malarial fever, where the patient had been unconscious for some hours. A little lad 9 years old (and, by the way, living in the same town as my first obstetric patient) was taken with a chill and immediately became unconscious. After the natives had tried all kind of native treatment it was suggested to take him to the new white doctor. I had treated a number of cases of malaria in Baltimore before going to Africa, but had never seen one just like this and supposed it must be malaria in a pernicious form. It so happened that I had a solution of quinine hydrobromide. This I gave hypodermically, then watched the symptoms. After an hour I found the pupils of the eyes becoming active, and, whereas when first seen the patient was almost lifeless and did not respond to any stimulus whatever, he now showed signs of life. Following with the quinine gradually, I soon noticed he was coming back to earth, and in about five or six hours he was up and walking and never had a return of the fever nor any bad symptoms.

You can imagine my feeling, in the heart of Africa, over this case. So, I said to the family, "The boy was dead to you, hence, you had better give him to me." They answered, they had been thinking the very same thing, and there and then willed the lad to me for life. When leaving Africa, four years afterward, we had the little fellow's trunk packed, to come with us to America;

but they could not part with him and said, if we took him away the father would kill himself. We regretfully left him behind, for the boy had become, not only a faithful servant to us, but almost like a son.

If space permitted, I might relate many incidents; but I must tell one joke about my chief assistant, Ukumbwa. One day I had an attack of African malarial dysentery. (By the way, I had this until after I came home for two years or more, and finally overcame it with large doses of quinine.) I gave Ukumbwa charge of my patients in the dispensary, which was next to our bedroom, and told him to write the name of the patient and the kind of treatment, and also his own name, on each bottle, so that I would know when they returned. This he did, and he brought the first bottle to me for approval. I read it and saw "M. D." written after his own name. Asking him what that meant and how he got it, he answered: "That means that there is medicine in the bottle." So, poor Ukumbwa forever after was called by the other assistants "Medicine-in-the-Bottle."

Just one more joke about a native from the interior, who came down to the coast (our station being on the coast) for the first time in a caravan of about 100 carriers (as those natives are called who carry on their backs for hundreds of miles goods from one station to another), and who had for his full dress a leaf, to cover him in the front, and a celluloid collar around his neck; and when I paid him his 4 marks in German money ($1.00) for carrying 25 pounds for 60 miles, he went and bought an umbrella. When asked why he did not buy a cloth for himself he simply took the cloth from the umbrella and used the handle for a cane. Nearly all white gentlemen in Africa use a cane, and, as the African is a great imitator, this darky wished to be in style, and, so, by buying the umbrella he had a cloth to cover his loins and a cane like the white man, too. In this country we pay to have our hair cut, but in Africa I had to pay a native 6 marks to cut his hair, because I wanted his headdress to bring home as a curio.

These people love the white man and almost worship a medical man, and the missionaries never need carry firearms when traveling in Africa, for they are never molested. When there was war between the German government (I was in a German colony) and the natives of the interior, the missionaries could go back and forth through the war zone without fear, simply because they did not carry a gun; but just as soon as they saw a man with a gun over his shoulder, they began to protect themselves and watch him. Never once during my four years there did I take a gun, and I traveled by night and by day, through forests and jungles, and town after town, and never once felt afraid, not even of the animals at night.

I believe the world has yet to learn that the pen is mightier than the sword and that peace never will reign at the mouth of the cannon.

NEWMAN H. D. COX.

Arlington, Md.

HIGH-GRADE USES OF COMMON THINGS

Almost prohibitory war prices have caused bedrock scarcity to be reached here, in the medical realm as well as in current ways of daily life.

Luckily I had a large supply of chlorate of potassium tablets, and, under this stress, I began to use them in place of other remedies for throat and bronchial troubles. I ordered the patients to dissolve one slowly in the mouth at frequent intervals during the day, and to have them in reach at night, in case of inconvenience. The results, such as rarely attained from the better grades of creosote and guaiacol preparations and the still more "ethical" specifics, surprised me very much, although the chlorate had long been a favorite application of mine as a wash for blistered mouth and for internal dosage in typhoid fever.

I have now employed this drug for so long in so many kinds of treatment, without ever encountering complete negative effects, that I do not hesitate to tell the profession that it possesses a remedial property valuable even when the emergency such as now enthrals me does not exist. The solution that slowly forms and insensibly creeps down the throat favorably attacks catarrh of the stomach, while nasal catarrh is modified in an incredible degree.

Suppositories have been my standby in the treatment of obstinate constipation, especially where the rectum is occluded with hard dry fecal matter. But that application has ceased to be with me either a necessity or a luxury. I had long used enemas of glycerin and water in cases where the impediment was so serious that purges failed to act, as if the bowel were corked securely, and currents of water clysters could not be forced to enter with any satisfactory results.

This led me to experiment to find a substitute for the suppositories. I deposited a

mixture of glycerin and water, 1 or 2 drams of each, in the rectum with a small rubber syringe. The effect was magical, the action being more prompt and more voluminous than from the suppository, which latter often is evacuated ere sufficiently dissolved to be effective. With my enema, the patient has no time to loiter on the way if the closet is a little distant; in fact, it has been found advisable to use the application at the spot of the evacuation. There has not been a failure. And the desirable feature, more than the prompt relief, is, that after three or four daily treatments, one each day, three or four days often pass without the necessity of repetition. Digestion is materially improved. Two persons who used laxatives and suppositories, now, after a month of the new treatment, need no more laxatives, have no flatulency, eat and sleep well—certainly betterments not anticipated by me.

I find the mixture with water better than the pure glycerin. What puzzles me most is, the practically instantaneous purgative effect, almost as violent as croton oil by mouth, without, however, any after-inconvenience, except that frequently there are two active movements of the bowels, with usually more than an hour between.

Crude lettuce and onion salad has given me another surprise, a discovery that seems to promise more than could be expected from such a humble agent. Lettuce and onion salad is eaten with much relish by many people everywhere. I am the only person within many square leagues who has lettuce and onions growing luxuriantly, and of these many people eat almost every day. Among these there were some afflicted with the urgent necessity to urinate frequently in the day, and as often as eight to a dozen times in the night, but for which no medical advice had ever been sought. Yet, after eating a full plate of this salad every day for about a week the urinary functions returned to normal, one call in the night being the most of such experience, and the excessive quantity also no longer obtaining.

The virtue must be in the onion combination, the same persons having eaten lettuce alone and onions alone as frequently as they have eaten the mixture, but without noting any such effect. I have tried a few plates on a couple of venereal chronics, who were much annoyed by frequent calls to urinate; the frequency has been reduced some fifty percent, but it would be absurd to think of any physical alleviation. What part the vinegar and salt play in the salad combination I have no more idea than I have about the chemical action of the gastric juices upon the vegetable substances and how the extracts so actively operate upon the kidneys and urinary apparatus.

I have been desirous to prove this salad in enuresis, but have failed to find a case, never having had such a patient in all my time here. I have also tried to find others afflicted the same as those inadvertently benefited, but failed.

For many years I myself had been under the necessity of getting out of bed several times in the night, which I attributed to the large percentage of liquid, vegetable, and fruit food I eat, and the quantities of water I drink. I had eaten lettuce salad every day for months at a time, and onions, always cooked, at the same meals, without ever noting any change in my urinary complications. Hence, at first I was really skeptical about the results when I was asked if such food would thus act. However, I resolved to try it. The first and second nights I was much disturbed by some sick federal soldiers and other attentions demanded, and I really forgot to heed whether there were effects or not; but the third night nothing disturbed me, and then I was up only once. This I partly attributed to the two previous sleepless nights; however, the fourth and the fifth nights were the same, and then the sixth night I was not disturbed till day was dawning, and I noted that the quantity of urine was quite scant.

Making further investigation, I observed that the urine was highly colored, of yellowish hue deeply tinted with a greenish shade, and was too thick to be normal. I dropped the onion out of the salad, and found the urine normal but reduced in quantity three days later. It has now been about two weeks, without any disturbance at night till near the morning. There have been no untoward symptoms.

I have not seen the other benefited parties in ten or more days, although they promised to advise me immediately at the first symptom of relapse; hence, I take it for granted that they are still in normal health.

My own experience seems to me to indicate that the flow of urine could be dried up by the long-persisted use of the dish. I admit that I eat of it rather copiously, maybe excessively, as I really wanted the relief found, though I never suffered the slightest detriment more than the inconvenience of being awakened six or seven times every night, which was not always agreeable.

It may be that this intense climate and rapid growth create qualities in vegetables not possessed by those where eternal summer-time is broken; yet, those grown here are mild and delicious. But, also, the disorder here may be more yielding than it is among people who live more luxuriously than do we.

My concrete-reservoir project for holding and guarding rain-water from the galvanized-iron roof is proving extremely successful, and people who drink no other water have no fevers, while before they passed more than half their time thus afflicted. I have found that my roof of 3500 square feet yields 15 gallons from a night of ordinary dew. Hence, the dry coast of California, where there is heavy misty fog, often till noon, should give enough to be in a high degree useful on lots of five or ten acres, as the daily supply would rarely fail. Such cisterns would cost little where cement and sand are cheap, about one-fourth what they cost here. My cistern is covered with concrete and the water enters through a strainer that the smallest insect cannot pass, and the overflow is tapped with the same fine wire-cloth; so the water is practically in a closed "demijohn," where it would never deteriorate were fresh supplies not almost constantly filling it up; yet, the drought rarely reaches three months here.

ROBERT GRAY.

Pichucalco, Chiapas, Mexico.

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[Readers of CLINICAL MEDICINE will be gratified to learn that Doctor Gray has gone safely through the Mexican rebellion, and that he is now in good health. We have recently received several articles from the doctor, which will be published in early issues. His life has been a thrilling one, filled with unusual and adventurous experiences, and we hope (yes, we believe) that he may be prevailed upon to tell the story. We are urging him to do this.—ED.]

UNDERNUTRITION

Undernutrition is a condition brought about by the fact that the body, from some cause or other, fails to receive the amount of food necessary to maintain body equilibrium. It is a very common condition, and is found in people leading normal, apparently healthy lives; in excessively thin and weak individuals; in subjects of scrofulous diathesis; in convalescents from acute diseases; in victims of wasting and nervous diseases—the degree and nature of the undernutrition differing in each condition.

Thus, the degree of undernutrition may be extreme, mild or negligible—it may be almost physiological in its manifestations or border on the pathological; or, again, may be so severe as to predispose to or actually cause a pathological condition. The amount of food received by the body as compared with the amount needed may, therefore, be greatly deficient or only slightly so. Van Noorden has grouped the disproportion into four classes, namely:

1. Mild degree of undernutrition: When there is a difference, between the calories of the food and the calculated maintenance diet, of 20 percent.
2. Medium degree: When the deficit is between 20 and 40 percent.
3. High degree: When the deficit is between 40 and 60 percent.
4. Severe degree: Above 60 percent.

The high and severe degrees of undernutrition, as per above table, may be called states of inanition, and occur only under the stress of marked pathologic conditions.

There may be different causes as to why the body does not receive sufficient food to maintain its equilibrium; and it may be well to divide these roughly into five divisions; namely:

a) Inflammations and injuries to the upper digestive tract, causing impairment of digestion and absorption.

b) Chronic fevers and disorders of metabolism.

c) Psychic disorders and nervous diseases.

d) Unreasonable prejudices or fear of consequences of taking food.

e) Sensation of distaste for food, lack of appetite, rundown system, and so on.

The treatment in the above cases is, to remove or remedy the underlying cause so far as is possible, and to resort to a fattening diet. Any excess of food which is supplied to the body beyond the amount required to furnish the current outgoings of energy, in the form of heat and work, will be stored up, in the form of fat; and the sum total of food per day supplying any excess is called a fattening diet.

It will thus be seen that the first essential in treatment is, to calculate the maintenance diet, or the amount of food sufficient to maintain equilbrium for the particular individual in hand. For example, calculating for a man of 154 pounds who is resting in bed, this would be 2100 calories. The maintenance diet varies, however, with the weight, activity, and metabolic energy of different individuals.

Having ascertained, approximately, what the maintenance diet of an individual is, we must calculate a diet supplying a number of calories over and above that required to maintain equilibrium. These remain within the body as reserve-energy and are stored up in the form of fat.

As an example of a fattening diet that may be gotten up for an average business man whose maintenance diet is 3050 calories a day, we may present the following:

Rice, macaroni or oatmeal, 1 1-2 ounces, or, green peas, 2 ounces, or, bean-soup, 3 1-2 ounces, or, spinach, 3 ounces	173 calories
Meat (broiled), 12 ounces, or, veal cutlets, 11 ounces	800 calories
Bread, 10 ounces, or, zwieback, 8 ounces	725 calories
Potatoes (bread), with butter, 10 ounces	337 calories
Milk, 16 ounces, or, cream, 6 ounces, or, cakes, 4 ounces	357 calories
Two eggs, 4 ounces, or, omelet, 5 ounces	167 calories
Butter, 2 ounces	463 calories
Sugar, 2 ounces	231 calories
	3353 calories

Add to the above surplus of 300 calories extra per day, an ounce of codliver-oil, with its 282 calories, and we have more than 500 calories available to be stored up in the form of fat; or, in other words, we have a deposit of approximately 2 or 3 ounces of fat in the human body per day. Of course, the above may be modified more or less.

In addition to the fattening diet mentioned above, plenty of water should be ingested. This stimulates metabolism, by dissolving out and removing waste products. It also fills out the skin, making it plumpy, thus giving the patient enough courage in the seeming "fat" to continue with the treatment the first few days, when dieting seems so difficult.

It must be noted, however, that muscular and glandular tissue cannot be built up by overfeeding alone. Regular, systemic exercise must be furnished, the muscles becoming larger and stronger, and in consequence the body becoming rounder and "fatter" through the stimulus of use. This exercise must be deemed essential along with the diet, and should be insisted upon.

Practically all articles of food can be utilized as fat-building foods, provided that their calories can be utilized. Fat, itself, is among all articles of food the most valuable in fattening cures, as it represents a very high calorific value in small volume and can be stored up with the least expenditure of energy and labor to the organism, often being stored up without change.

Although a fattening diet is the *sine qua non* in undernutrition, and although overfeeding is practically the only efficient treatment, the use of drugs to aid in the treatment should not be slighted or ignored. They are of great practical value in all fattening cures, in that they not only are used to stimulate the appetite and aid in the digestion of the extra amount of food, but are also used for their action as general tonics, foods, and reconstructants.

Codliver-oil. This is nothing but a very easily digested and nutritious fat food, yielding 283 calories per ounce.

Extract of malt. This represents a large percent of carbohydrate nutritive matter and a small amount of diastase.

Nuclein. This is a highly nutritious proteid food and also a stimulant to constructive metabolism, and ought always to be used in cases of undernutrition. The nucleinated phosphates, together with strychnine arsenate, have been found an ideal combination, given in alternation.

Sanguiferrin. This has been useful in those conditions of undernutrition where there is a tendency to anemia, and is superior to many of the iron preparations on the market.

Capsicum and nux vomica compound. This should be used only in those cases in which there is marked anorexia.

D. E. Piconi.

Brooklyn, N. Y.

LICE: THE PLAGUE OF THE ARMIES IN THE FIELD. DO THEY CONVEY INFECTIONS?

In my book, "Napoleon's Campaign in Russia, Anno 1812," I quote Carpon, a surgeon-major of the grand army, who, telling of the days of Wilna—almost as frightful as the disaster of the Beresina—speaks of the lice plague. It is revolting. I also mention Suckow, a Wurttembergian first lieutenant, who describes the intolerable distress caused by lice, disturbing the sleep of the camp-fire; further, Johann von Borcke, who became alarmed when he discovered that his whole body was eaten up by the vermin; and, again, a French colonel, who relates that in scratching himself he tore a piece of flesh from the neck, but that the pain caused by this wound produced a sensation of relief. Under the circumstances, characteristic of that Russian campaign—especially the impossibility of

bodily cleanliness—the vermin developed in a way that baffles description.

No one is exempted, according to Constant, Napoleon's valet, even the emperor had his share. When the few survivors of the Russian expedition—these hollow-eyed spectres, with their frozen hands and feet, full of dirt, blackened by the smoke of the camp-fires, wrapped in sheepskins and rags, and with long beards—came to German quarters, good people gave their guests an opportunity to clean themselves thoroughly; the well-to-do having their servants to attend to this process. In the houses of the working-class, man and wife would give a helping hand. A sergeant, together with a comrade, was quartered in the house of an honest tailor, who, seeing how the soldiers were covered with lice, made them undress, and then ironed the outer clothing with a hot iron, while his wife boiled the undergarments.

Strange to say, this subject of lousiness hardly ever is mentioned in the medical histories of wars, although everyone who has been in the field is familiar with it. Some of my readers complained that I had not told more on phtheiriasis; however, I had given all that I had found in the old papers telling of the Russian campaign, and I did not come across the description of a remedy until I consulted the Surgeon-General's library catalog. And all I found was a paper entitled "Weyland: Ueber die Sichere Vertilgung der Kleiderlaeuse, der Pflege der Armeen im Felde und im Bivouak," published in a medico-military journal of Vienna, in 1872.

Weyland reports his experience with a remedy he had successfully employed in the Franco-German war of 1870-71. The conservator of a natural museum had told him how much his specimens had been damaged in comparatively short time by lice and moths, notwithstanding that arsenic had been employed, and how much better they were preserved since benzin had been used.

Weyland adopted this remedy for the military hospital of which he had charge. He had wooden boxes made, 5 feet square, lined and covered so that they could be closed hermetically. Benzin was poured in the bottom of the box, and the clothes, when being packed into it, had benzin poured on between the successive layers. The box, having been packed to its capacity, was closed tight and kept thus for two or three days. When the clothes were taken out one saw with surprise and disgust how the sloughs of the dead lice fell out in immense numbers. The evaporating benzin, penetrating the garments, had killed them, as it will kill all kinds of insects. As we know benzin does not injure the fabrics.

We are accustomed to read a great deal about flies and bedbugs as carriers of infectious germs, but lice are seldom mentioned.

In Athens we meet countrymen wearing the picturesque Greek-Albanian costume, the "phoustanella." The pride of these "phoustanellaphoroi," as they are called, is, to have the garment snow-white. Occasionally we notice one with a brown phoustanella, that is, a man who comes from a great distance and is on a prolonged journey. Having no opportunity to have his garments washed, he dips them in tar-water, not only to hide the staining of everyday wear, but also as a protection against vermin.

A. ROSE.

New York, N. Y.

THE OLD DOCTOR

WITH APOLOGIES TO UNCLE NED

There was an old doctor,
But they only called him "Doc,"
He was always on the go, on the go.
He had a lot of sense
In his old shiny block,
For it held exactly all there is to know.

CHORUS:

He could easy tell a fiddle from the bow,
He could rustle, rustle, rustle for the dough.
There wasn't any rest for the poor old doc,
He was always on the go, on the go.

This wise old doctor
Went to make a morning call,
But he stayed, and he stayed till tea.
You think a pair of twins,
But you haven't got 'em all,
For they counted up to one, two, three.

(CHORUS:)

When the poor old doctor
Had a hurry call to die,
He was pulling on his boots, then, to go.
He opened out his wings,
He was ready for the fly,
He was always on the go, on the go.

(CHORUS:)

C. N. MILLER.

Oakland, Cal.

THE ALIENISTS AND NEUROLOGISTS

For several years past, the Chicago Medical Society has entertained, annually, the leading alienists and neurologists of the United States, usually sometime during the summer. On this occasion, many topics of pertinent interest are discussed. This year the meeting was held July 13 to 16, at the Hotel LaSalle.

In order to preserve in a permanent form the numerous splendid papers presented at this meeting, it was decided to publish them together in a single special number of *The Illinois Medical Journal*.

This number has just appeared, and, with its 265 pages printed in two columns, it certainly is one of the finest as well as one of the largest medical journals we have ever seen. Virtually the entire issue is given up to the papers presented at the July meeting. The articles contributed are written by such men as L. Harrison Mettler, Dr. James A. Clark (president of the Chicago Medical Society), Judge Harry Olson (of the municipal court of Chicago), King, of Atlanta, Lindsay, of Topeka, Solomon, of Chicago, Ricksher, of Kankakee, Throckmorton, of Des Moines, Bowers, of Michigan City, Searcy, of Tuscaloosa, Munro, of Omaha, Sterne, of Indianapolis, Diller, of Pittsburg; but there are many more. The number as a whole makes a most complete volume upon psychiatry, and as such is worthy of a place in every physician's library. The price of this number alone is $2.00.

In addition to the reading of the papers, the alienists and neurologists passed some very important resolutions. We have not the space here to reproduce them all, but the following, submitted by the Committee on Alcoholism as a Causative Factor of Insanity, certainly are of peculiar interest:

Whereas, in the opinion of the meeting of alienists and neurologists of the United States in convention assembled, it has been definitely established that alcohol when taken into the system acts as a definite poison to the brain and other tissues; and

Whereas the effects of this poison are directly or indirectly responsible for a large proportion of the insane, epileptics, feebleminded, and other forms of mental, moral, and physical degeneracy; and

Whereas the laws of many states make alcohol freely available for drinking purposes, and therefore cater to the physical, mental, and moral degradation of the people; and

Whereas many hospitals for the insane and other public institutions are now compelled to admit and care for a multitude of inebriates; and

Whereas many states have already established separate colonies for the treatment and reeducation of such inebriates, with great benefit to the individuals and to the commonwealths;

Therefore, be it resolved, that we unqualifiedly condemn the use of alcoholic beverages, and recommend that the various state legislatures take steps to eliminate such use; and be it further

Resolved, that we recommend the general establishment, by all states and territories, of special colonies or hospitals for the care of inebriates; and be it

Resolved, that organized medicine should initiate and carry on a systematic persistent propaganda for the education of the public regarding the deleterious effects of alcohol; and be it further

Resolved, that the medical profession should take the lead in securing adequate legislation to the ends herein specified.

These resolutions were passed unanimously. It is an evidence of the changing signs of the times that any medical society can be found which will commit itself unqualifiedly and without reservation to the condemnation of alcohol in any form, with a demand for the suppression or the control of the traffic therein.

Other resolutions were passed relative to the influence of venereal diseases, of habit-producing drugs, of unsanitary hygienic surroundings, heredity, and immigration, upon the accumulation of the mentally unfit in this country.

All things considered, the meeting was a most interesting one, and we hope that it will become a permanent feature of Chicago medical life. If any reader of CLINICAL MEDICINE desires to procure a copy of the October number of *The Illinois Medical Journal*, containing, as said, the complete proceedings of this great meeting, he may obtain the same by addressing Dr. Clyde D. Pence, 3338 Ogden Avenue, Chicago.

PRACTICAL POINTS ON DIABETES, ESPECIALLY PANCREATIC DIABETES

Very little work has been done on pancreatic diabetes. Research-work does not amount to anything: "Time is too short to specialize in that kind of investigation" is what men say. More attention is being given to certain other troubles, such as cancer, hydrophobia, tuberculosis. (These, by the way, I believe never will be cured, not even if a hundred other Rockefeller Institutes are founded on our hemisphere. Prevention, that is all that can be done, now and for a long, long time to come.) But, men ought to make a special study of socalled "common democratic" ideas and work, and leave the aristocratic hypotheses (they are nothing else!) to stand as hypotheses.

Dextrose, or glucose, lost through the urine is the distinguishing symptom in diabetes, although it also occurs as a transient symptom in some nervous diseases, or even after large consumption of sugar and carbohydrates in the diet; and then it is called transitory glycosuria. We meet such cases every day and if the pathologist is not careful enough the report will convince the practitioner that his patient is in a dangerous condition.

About three or four months ago an Italian woman called at my laboratory to have a

urine examination made. The specific gravity was found to be 1048, and sugar about 6 percent. Three days later the specific gravity was 1021, while of sugar there was found only a trace.

The 4-year-old child of a colleague was eating candies during two or three weeks. Her urine tested 3 percent of sugar, and had a specific gravity of 1038. About two or three days later everything was in normal condition. A little bromide effected the wonderful cure.

Normally, the liver arrests sugar coming from the alimentary canal; if imperfect functioning allows some of it to pass, we have an alimentary glycosuria or perhaps more persistent forms. In a case of echinococcus infection, 12 percent of sugar was found, but it disappeared in a few days after the echinococcus-cyst was taken out by operation. Extirpation of the pancreas causes diabetes, for the regulative function of the gland is thereby removed and more sugar reaches and passes the liver. In the blood, sugar is a protoplasmic poison, causing increased katabolism and nitrogenous elimination.

Atrophy and also cachectic degeneration of the pancreas is found after death from diabetes; while experimental removal of the gland in dogs causes glycosuria, which generally proves rapidly fatal.

It is supposed that the islands of Langerhans, which in the human organ lie almost exclusively in the tail of the gland, have a peculiar function in regulating the metabolism of sugar, and that, when degenerative changes in the pancreas are accompanied by glycosuria, it is because that section is involved where these cell accumulations are found. Extensive lesions may involve the head of the pancreas without causing glycosuria, owing to this anatomical arrangement. When the islands are involved, the lesion may be a hyaline change in the epithelial elements or a partial or complete atrophy of the entire islands. A well-established fact is that diabetes often is accompanied by lesions in and about the fourth ventricle.

The pancreatic lesions are not always of one kind, even in the pancreatic form of diabetes, but certain forms have been found both in obese and in cachectic patients.

In cases of pancreatic diabetes, I observed excellent results from every kind of treatment, including climate, diet, electricity, exercise, and so forth; and also with the bromides.

If the diabetes is of other origin, the treatment must depend always on the special cause of the presence of the sugar.

Every case ends fatally, invariably, if it is not treated according to its etiology. During one year I saw nearly 100 cases of diabetes, 90 percent of which ended fatally, because the practitioners' "good idea" always was a step—too short. Unfortunately, in many laboratories much poor superficial work is being done, and these circumstances explain the numerous deaths from this cause.

S. R. KLEIN.

New York, N. Y.

CROTON-OIL AS A CURE FOR SCIATICA

I note in July CLINICAL MEDICINE what Doctor Dercum is reported to have said, in *The Therapeutic Gazette* for April, about the treatment of sciatica by rest in bed, placing the limb in splints, and the administration of sodium salicylate and sodium bromide.

In my own experience in the treatment of sciatica, I have found no remedy so efficacious and prompt as 1-drop doses of croton-oil made into pills with conserve of roses or bread crumb (and combined with or without opium, as may be found necessary to control too active an effect on the bowels), one pill to be administered daily or every other day for ten days or a fortnight. At the end of this time very great, if not complete, relief will be afforded.

GEO. D. STANTON.

Stonington, Conn.

[Pretty energetic treatment, at which, I fear, the average patient will rebel. Simpler and pleasanter are elimination with the daily morning dose of saline, immobilization of the limb, hot epsom-salt compresses, alkalinization with calcium or sodium mixtures (as in calcalith or sodoxylin), and full doses of the salicylates. But we have no doubt the croton-oil would help.—ED.]

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

IN A PREVIOUS article I referred to chlorosis. I wish to add a few words to what there was said. If a girl is chlorotic, by all means she should be cured before contracting marriage, because then it is easier to cure than afterward; while, moreover, should pregnancy occur, miscarriages frequently take place and also her offspring generally are scrofulous or delicate.

With regard to hysteria, it is more difficult to know just what course to advise. If the trouble is highly developed, that fact should be made known to the intended husband; for, Boucher has ascertained that out of 170 epileptics 23 had extremely hysterical mothers.

Still, every rule presupposes exceptions; and, inasmuch as nervous disorders become more difficult to cure in proportion to the length of time they have been permitted to last, it is a question whether it be not wise to permit many among the hysterical girls under age to marry. Only the medical adviser can answer so grave a question.

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Some of the disorders here to be enumerated are common to both sexes in the period between the ages of forty-two and forty-nine years.

Gout.—Gout and its allied complaint, rheumatic gout, seem to be produced by ungenial climates and the conditions of a high civilization. Those generally suffer from gout who eat more than they can digest and drink anything that does not reduce them to a state of intoxication.

Women, as is well known, are not, in general, liable to gout until after cessation of menstruation. But this rule is not without exception; I have seen patients tormented with it all their lives, although they were as regular as possible. The cause of this general immunity of women from this disorder may be traced to their more habitually temperate habits and to the more constant action of the skin, as shown by the tendency to perspiration during the monthly periods, during pregnancy, and during lactation.

Cancer.—This terrible infliction, which may attack various parts of the body, figures during the present epoch to a considerable extent in the tables of mortality. The effects of the disease, the causes of which are utterly unknown, are frightfully fatal. That it does not depend upon habitual intemperance, is clear from the fact that throughout life women are more liable to cancer than are men and it is at the period of the climacteric that they become most subject to it.

All we know of its cause is, that in women, particularly in those of a very nervous temperament and under the influence of grief, the blood becomes poisoned and cancerous products are deposited in some one part of the body, whence the contagion is gradually disseminated through the whole system. The most rational line of conduct is, to let our lives be governed by approved rules of health, so as to obviate a preponderance of the nervous system.

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It is not unusal for women to refer all their extraordinary sensations to "the change of life" and to consider that when they have thus accounted for their diseases they have at the same time cured them; and in this most medical men—judging at least from their practice—seem to be of the same opinion. Too little regard is paid to the dangers of the crisis; and when the threatening consequences of mismanagement have become startling those fatal mutations are attributed to some trivial cause, and the victim passes away to the sound of the passing bell; and no increase of knowledge, acquired by such a mournful experience, stands in the way of the next victim to a management as unwise and as thoughtless.

The complaints that women at the climacteric often make frequently are hushed by doctors with the unsatisfactory reply that such complaints are owing to the change of life and are likely to cease whenever the change shall become complete. A physician has no moral right to put to sleep the anxieties of his patient, and to save himself the trouble of thinking by so concise and unphilosophical a mode of proceeding. Whenever, therefore, a woman at this period—which is universally

admitted to be a critical and dangerous time for her—comes to complain of symptoms referable to some morbid condition of the reproductive tissues, it is clearly our duty to give considerate attention to her condition, and not to dismiss her until our judgment shall be fully satisfied as to the therapeutical or hygienical indications of the case.

To derive benefit from the best advice, it is necessary to believe in the evils it is intended to avert. Women, therefore, should be impressed with the conviction of the dangers that await them; while at the same time they should be convinced that their troubles depend upon causes almost entirely under their own control. Unfortunately it too often happens that women are not made aware of the necessity of precautions until the function has entirely ceased; whereas, these should be taken just as soon as nature shows its intention to effect a change, by repeated irregularities in the amount or quality of the accustomed discharge, as well as in the time of its appearance and the pain by which it is attended.

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In some women, after the menopause, the stock of vital productivity is fairly exhausted and no active treatment is required. But, in most there is a superabundant nervous energy or a superabundance of blood; for, that supply which formerly was sufficient for the maintenance both of mother and offspring can thenceforth be expended only on the woman's frame, in which the circulating system tends to assimilate to that of man.

There is one important point to be remembered by women, namely, that, in proportion as their sufferings were protracted previous to the healthy establishment of the periodical flow, so may they, in general, expect its cessation to be attended by a corresponding period and intensity of suffering. This is a useful warning to many women; but it must not also be inferred that those who have suffered little or nothing at its establishment have no illness to expect and therefore need take no precautions.

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Another fact equally interesting and important to be known is that in general those diseases which precede the first appearance of the courses may likewise be expected to precede their cessation. It has been noticed that hysteria and epilepsy have appeared before these two important epochs in the lifetime of woman, the patient's life having been free from these diseases during the intervening period. In my own practice, I have several times seen them preceded by an abundant eruption of boils, frequently by continued diarrhea, and still oftener by a great amount of pseudo narcotism and of hysteria in cases where there was little or none during the persistence of the monthly function, child-bearing or lactation.

Another indication useful to women is, that whenever irregularities in the monthly appearance coincide with sensations of sinking at the pit of the stomach, with flushes of heat and perspirations, even though their age may only be between thirty and forty, they may, in general, consider these occurrences as warnings of cessation, particularly if they are accompanied by a corresponding amount of pseudo narcotism.

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Lastly, there are diseases which occur at this critical time which escape all calculation, and can be explained only by the well-known fact, that the impetus of morbid action tells most forcibly on the weakest organ; for, it would be erroneous to consider as disease of the critical time that which, if looked for, would have been discovered long before. However, those diseases which, although previously developed, proceed with increased activity after that time may fairly be considered as the result of an alteration in the constitution and brought about by the change of life.

One observation applies to the treatment of all the diseases of this epoch—the necessity of time. Nature cannot work at a railway pace. A habit of thirty years cannot be interrupted without periods of hesitation, of trial, and infirmity, previous to the recovery of health. This patient expectation of health, without recourse being made to vigorous measures, often is irksome to women, for the notion of immediate relief clings with pertinacity to all sufferers.

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Ordinary Symptoms of Menstrual Cessation.—Convinced that a minute investigation into the natural history of the phenomena of cessation could alone give us an insight into the diseases of that epoch, I have carefully noted the morbid phenomena which occurred at cessation in several hundred women, and some of the most frequent symptoms may be referred to the cerebral system.

Headache, sick-headache, hysteria, and pseudo narcotism had existed at menstruation in	64	percent
They were augmented in	36	"
They remained the same in	18	"
They were less in	10	"
They did not exist in	36	"

Thus, when the habitual derivation from the sanguineous mass was no longer regularly performed every month, the cerebral symptoms were increased in 36 percent. During the period preceding cessation, sick-headache is but seldom observed.

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With regard to hysteria, it will still be observed in women of a sanguine temperament, in whom the least disturbance of the periodical function has, throughout life, often brought on this disorder. Whereas, on the contrary, in women of a nervous temperament, hysteria will diminish in proportion as the activity of the reproductive organs becomes less and less, and will cease entirely with the subsidence of their action. Pseudo-narcotism is the most common symptom of cessation.

Those who have carefully analyzed the symptoms presented by some women at the change of life will remember the habitual giddiness, the uncertain step and tottering gait, the vacancy of feature, and the drowsy or drunken expression of the eye, as well as the efforts they made to recover their oppressed intellects when aroused by a question; and exact observers will not deem exaggerated the appellation pseudo-narcotism. Such patients say that they feel as if they had taken too much, as if something had got into their head.

Such examples of pseudo-narcotism fortunately are rare, for they present the extreme of what may be observed quite often. The ordinary symptoms are: a strong tendency to sleep, an uneasy sensation of weight in the head, a feeling as if a cloud or a cobweb needed to be brushed from the brain, disinclination for any exertion, impaired memory, and a dimunition in the powers of the mind.

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I have sometimes been told by women at this period of life, with an expression of anguish which could not be feigned, that at the monthly epochs they felt so strange in the head—so lost—such sensations of impending horror that they were sure they must some day go mad. May not this be considered to be the last step of the ladder that may lead a woman from the first slight haziness of intellect to its total absorption?

I shall draw the attention of those who may charge me with exaggeration to a sketch of a similar case drawn by the masterly hand of Sir H. Halford. "The subject of such an indisposition," he says, when alluding to the change of life, "has probably grown corpulent. She sits in an indolent posture, looks gloomy, hardly speaks at all, and we learn from her attendants that she lives under the impression that some fancied evil is about to befall her. She is suspicious, undecided in all her movements, and manifests symptoms which differ in degree only from melancholy mania."

There are many insane women between the ages of forty and fifty whose recoveries may be expected when the womb shall have fairly resumed its pristine inaction, and when also the brain shall have lost a fertile source of irritation and disease. Unfortunately, it happens that the poorer classes are much too unmindful of the health of women at the critical periods of life and pay too little attention to the means whereby the uterus may be assisted in its efforts to preserve its due influence upon the human economy; and, therefore, is it, in a very great measure, that insanity is so frequent an occurrence among women.

Among other disorders of menstrual cessation are: sinking at the pit of the stomach; inflammatory affections of the womb; flooding; uterine fibrinous tumors; ovarian tumors; biliousness; diarrhea; hemorrhoids; intestinal loss of blood.

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In sudden congestions from exposure to cold and wet, with consequent chills, headache, stoppage of menstruation, and so on, the prompt use of aconitine generally will restore the circulatory equilibrium, averting a serious illness.

The severity of herpes zoster can be greatly allayed and the duration of the malady decidedly shortened by the administration of 1-6 grain of zinc phosphide one hour before each meal.

In some bilious attacks, 1-1000 grain of copper arsenite in hot solution, if taken at fifteen to thirty minute intervals, will prove almost a specific. The indications are: dizziness, flatulence, and alternating constipation and diarrhea.

One full dose of copper arsenite, 1-100 grain, followed at fifteen-minute intervals by small doses, 1-1000 grain, will usually stop nausea promptly, except perhaps when caused by cirrhosis of the liver.

Persons, especially women, of a gouty diathesis who suffer from bronchitis characterized by violent coughing, with nonpurulent expectoration; attacks of dyspepsia, diarrhea or dysentery; or violent neuralgic pains about the head and face, will be greatly relieved by colchicine, iodized calcium, and saline laxative.

Among the Books

HAMILTON-MUNCIE: "FOUR EPOCHS OF LIFE"

Four Epochs of Life. By Elizabeth Hamilton-Muncie, Ph. M., M. D. Illustrated. New York: The Gospel Publishing House. Price $1.50.

The author of this little book has applied to her educational propaganda the powerful principle of indirection, and put her preachment into the form of a story. She evidently has perceived the uselessness of battering Gibraltar from the sea by a frontal attack, and realizes that the only method offering any chance of taking the position lies in a flank-movement. There are, of course, many features of the book that well might be criticized. We think, for instance, that in spots it is a little too much inclined to be "preachy." But its minor faults all sink into insignificance beside the central fact that it grasps and applies the principle of indirection in sex education.

For one person who will read a cut and dried lecture upon the subject, there are hundreds who will read and profit by this human, homely little story, which brings the truth it seeks to instil into vital and intimate relation with the experiences of daily life. We congratulate Doctor Hamilton-Muncie upon her intuition, or her knowledge of human nature—or whatever faculty it may be that has made her a pioneer in this style of writing; and we earnestly commend her book to the attention of those physicians who are seeking for some adequate, yet delicate, way of reaching the young among their clientele.

GOEPP: "STATE-BOARD QUESTIONS"

State-Board Questions and Answers. By R. Max Goepp, M. D., professor of clinical medicine, Philadelphia Polyclinic. Third, revised edition. Philadelphia and London: The W. B. Saunders Company. 1914. Price $4.00.

Of the real value of books of this character we have never been quite able to satisfy ourselves; but, then, that aspect of the matter is, perhaps, a little outside the province of a reviewer. Apparently someone does see good in them, for we know that there are hundreds, even thousands, of students throughout the country who use them, as this, the third, edition of Goepp's compilation certainly demonstrates. To such, this compilation must be a real mine of wealth; for it is a representative and comprehensive gathering together of state-board questions and answers, excellently and helpfully presented.

Aside from those who may desire to avail themselves of the help here afforded in preparing for a state-board examination (which presumably is the prime purpose of the book), it will be found of some service to any student or practitioner who feels the need of "brushing up" on any of the numerous branches of medical knowledge treated of, and in which everyone is more or less prone to become stale and out of practice. So far as we can judge, the information it contains is accurate and reliable, although, of course, we do not pretend to have made a thorough scrutiny.

ASHURST: "SURGERY"

Surgery: Its Principles and Practice. For Students and Practitioners. By Astley Paston Cooper Ashurst, A. B., M. D. With 7 colored plates and 1032 illustrations. Philadelphia and New York: Lea & Febiger. 1914.

The time has long gone by (if it ever did exist) when a textbook upon one of the branches of medicine could cover anything like the entire field of related theory and practice. It may, indeed, be seriously questioned whether that be the ideal function of a textbook. Rather, we think, is it the office of a textbook to give a comprehensive summary of its subject; as the author of this particular work aptly puts it—to teach the student to know rather than to do. Judged from this standpoint, there are all too few legitimate textbooks of surgery in the literary market, and both teacher and student feel the lack keenly. This work of Ashurst's, therefore, will find a hearty welcome awaiting it among the ranks of those who teach and those who study surgery.

In our opinion, the book is a capital one to teach and study by. It is written precisely

in the style and form of the oldtime textbooks of surgery—after the fashion of Walsham's famous manual, for instance. It is immensely interesting, by the way,. to compare the subject-matter, step by step, with that of the older works, and see how times have changed, and manners have changed with them. We are, in fact, shown new friends with old faces. All the facts of modern surgical science are set before us in the compact, logical style of the older writers, which cannot be surpassed. Doctor Ashurst's work ought to become a favorite with the schools. We predict that it will.

CORRECTION

In the September number of CLINICAL MEDICINE we reviewed an interesting book entitled "Practical Hormone Therapy," by H. R. Harrower, M. D. This book is published in England by Messrs. Balliere Tindall & Cox and through an unfortunate oversight credit for its publication in America was given to Mr. Paul Hoeber of New York. This is an error. We understand that the book is handled by the author himself, whose address is 880 W. 180th Street, New York.

In a recent communication Doctor Harrower informs us that he will be perfectly willing to send a copy of this book on approval to any reader of CLINICAL MEDICINE who requests it. We would suggest that this is a fair offer and that those who see the book will soon be convinced of its practical value.

CANDLER: "DISEASES OF CHILDREN"

Everyday Diseases of Children, and Their Rational Treatment. By George H. Candler, M. D. Second edition, revised and enlarged. Chicago: The Abbott Press. 1914. Price $1.00.

Amid the dreary monotony of iteration and reiteration in medical literature—textbooks copying one another, ad nauseam—it is decidedly refreshing to come upon a work like this, which copies nothing and echos nobody, whose suggestions and means of treatment are not drawn from stereotyped literature, but reflect personal experience based upon an application of the principles evolved by the same author in his own extensive practice.

And this is the best reason a book can have for its being; and, if the first edition of this book by Candler justified itself on this score, the second edition achieves even still greater justification. There is nothing cut-and-dried about this handy manual. It fairly bristles with individuality and practical resourcefulness. It is alive with the busy atmosphere of the sick-room where "something is doing."

The book is based, of course, so far as treatment is concerned, upon active-principle therapy. If the author believes (as unquestionably he does) in active-principle medication, and if his experience verifies and justifies his faith in it, then it is to his credit and to the uplifting of medicine that he makes that the cornerstone of his therapeutic doctrine. While undoubtedly men who have the courage of their convictions to the extent of applying them make mistakes, still, these are the mistakes of men who do things, and are always more than offset by the really valuable contributions they make to real, burning, living knowledge.

However this may be, Doctor Candler's book contains excellent and vital information and counsel upon the subject of which it treats, namely, the rational treatment of everyday diseases of children; and everyone of its pages breathes the spirit of therapeutic optimism. It is not a book for the therapeutic skeptic or nihilist; but for the physician who believes that his function is to really cure and relieve disease, and who earnestly seeks ways and means to do so, it will be found a veritable mine of suggestion and help.

HARTENBERG: "NEURASTHENIA"

Treatment of Neurasthenia. By Paul Hartenberg. Translated by Ernest Playfair, M. B., M. R. C. P. Edinburg, Glasgow, and London: Henry Frowde, and Hodder & Stoughton. 1914. Price $2.00.

We have always maintained that the neurasthenic is born, not made; that no really sane and healthy man ever becomes a neurasthenic; that the symptomatic conditions which so foolishly are credited with the causation of neurasthenia are, in reality, the results of it, or at least part and parcel of it; that, in fact, nothing within the person can be a cause of his condition, since he himself, as a whole, is a net result of the underlying and backward-reaching conditions that make him a neurasthenic. All this we have persistently and consistently maintained for many years, in the face of the stereotyped formulas of the textbooks. It is, therefore, not a little gratifying to find these views about neurasthenia fully vindicated by no less an authority on the subject than Doctor Hartenberg, in this recent monograph.

After briefly running over all the alleged contributing causes of the disorder, Harten-

berg asks: "But these causes, active and powerful though they are, do they suffice in themselves to produce the neurasthenic state?" And to this he rejoins: "Practical observation forces us to answer, categorically, No." And he continues, "The deep-rooted, hidden factor cannot be looked for elsewhere than in a special predisposition on the part of the nervous system." This predisposition he calls "fatiguability."

We could have wished that Doctor Hartenberg had gone a little further and shown that this "deep-rooted hidden factor" consists in what the biologist calls a lack of ancestral impetus, and thus, once for all, have placed neurasthenia where it truly belongs—in the category of biological disorders. However, like all Frenchmen, he is more concerned with the clinical than with the pathological aspects of the subject. And, after all, this is the more important and useful aspect to the practitioner; so, we will not quarrel with him. Suffice to say that this sensible, scientific view of the nature of neurasthenia gives to his treatment of the condition an equally sensible and scientific quality. This book by Hartenberg, is, in fact (if we may be permitted to use the same two words again), the first really sensible and scientific utterance upon neurasthenia that we have seen in modern times.

NILES: "DIGESTIVE DISEASES"

Diagnosis and Treatment of Digestive Diseases. By George M. Niles, M. D., professor of gastroenterology at Atlanta Medical College. With 1 colored plate and 80 other illustrations. Philadelphia: P. Blakiston's Son & Co. 1914.

One hardly can characterize this book better than by borrowing the author's own description of his intentions, as set forth in his preface. There he declares it to be his purpose to produce a book which shall contain, first, concise but easily intelligible descriptions of the various reliable tests for the objects of study in the gastric contents, the intestinal juices and the feces; second, practicable and least disturbing methods of determining the size, position, and motility of the stomach, bowels, and other abdominal organs; third, a succinct statement of the diagnostic methods indicated for the recognition of digestive diseases; and, finally, an exhaustive discussion both of general and special therapy as applied to these diseases. He further disclaims all intention of furthering the erroneous movement for divorcing gastrointestinal diseases from the broad field of general medicine, to which, he asserts (and we most heartily agree with him), they rightfully belong.

Having thus frankly set forth the aims of his book, it remains for the reviewer only to say whether, in his opinion, these aims have been realized, and whether their realization, assuming it to be attained, justifies itself in its importance and usefulness to the practitioner. On both of these points we register an emphatic affirmative.

The book, in our humble opinion, will prove a most decided acquisition to the practicing physician, who *can not* possibly "divorce gastrointestinal diseases from the field of internal medicine"—and that is more than one can say for the great majority of books that nowadays are being written on special subjects, ostensibly for the general practitioner. Although the title speaks of *one* colored plate, there are really *two*, both of which illustrate the examination of feces. All the illustrations are excellent.

EINHORN: "DIETETICS"

Lectures of Dietetics. By Max Einhorn, M. D., professor of medicine at the New York Postgraduate Medical School and Hospital. New York: Paul B. Hoeber, 1914. Price $1.00.

As might be expected, Doctor Einhorn deals with his subject from a clinical rather than from a scientific standpoint. It is, in fact, a manual of clinical dietary, instead of a treatise on dietetics. Not that we are discrediting or belittling it on that account. On the contrary, this is what, in our opinion, constitutes its peculiar and distinctive value.

The science of dietetics is a most important one, and we cannot have—at all events we do not have at the present time—too many or too thorough textbooks upon the subject. It must be confessed, however, that the perusal of these books too often leaves the clinician in the lurch about the simple, commonsense, practical application of dietetics to bedside practice. This is the side of the subject that Einhorn's little book teaches with simple clearness, and, of course, with the personal authority of a man whose knowledge of the gastrointestinal tract is unique and unquestioned.

The lectures are published in precisely the form in which they were delivered at the Post-Graduate School, no attempt being made

to change the style or beautify the language—another advantage to the reader, who thus occupies the place of an actual listener to the author's words. For our own part, we are particularly impressed with the lectures devoted to the dietary of chronic affections; still, each reader will pick out his own favorite part, and the real fact is that every lecture is equally excellent.

FREUD: "DREAMS"

On Dreams. By Prof. Sigmund Freud. The Only Authorized English Translation, by M. D. Eder, From the Second German Edition. With an Introduction by W. Leslie Mackenzie, M. A., M. D. New York: The Rebman Company. 1914. Price $1.00.

We never could—and we fear we never shall—be able to bring ourselves to follow Professor Freud in all of the ramifications and applications of his remarkable theory. But that does not detract, in our mind, from the greatness and importance of his central position. It is characteristic of every great philosopher—or nearly every one—to attempt to make his system of philosophy "four-square," as the lawyers say, with the universe; and it is equally characteristic of the universe to refuse to be four-squared.

Freud unquestionably has enunciated some very profound and comprehensive principles concerning the realm of the subconscious—principles as epoch-making as Bergson has, within recent years, enunciated in the domain of biologic evolution. And these principles have a tremendous practical importance in the clinical diagnosis and treatment of mental conditions. It is, in fact, no exaggeration to say that they have given us the key to a rational ordering of the mental sphere, as truly as Darwin gave us the key to the ordering of the physical. But, like every profound thinker, particularly every German thinker, Freud is a good deal of a mystic; and mysticism always breaks over the traces.

With the general proposition, that "the interpretation of dreams is the road to a knowledge of the part which the unconscious plays in mental life," we suppose nobody can any longer refuse to agree, since dreams are now pretty generally conceded to represent the outbreaking of repressed mental complexes during the abeyance of the conscious intelligence. This is a sound, scientific proposition, upon which we may safely proceed to practical, clinical corollaries.

However, the doctrine of symbolism, as applied to dreams—while we do not deny that it has a color of reasonableness and science—is as yet so dangerously tinctured with mysticism and parallelism that we cannot accept it as a safe working-basis for any thing.

The greater portion of the little book under review is devoted to an exposition of the symbolism of dreams. It is extremely interesting and suggestive, and evidently is *feeling toward* the truth. But, it should be read with a very critical and discriminating mind.

BODKIN: "DISEASES OF THE RECTUM"

Diseases of the Rectum and Pelvic Colon. By Martin L. Bodkin, M. D. Illustrations specially drawn by Francis A. Deck. New York: E. B. Treat & Co. 1914. Price $3.50.

Twenty years or so ago, every book upon a special branch of medicine or surgery based its claim to consideration upon the distinction and separation which it achieved of the specialty in question from the rest of medical science and practice. Now the tide has turned homeward again, and every book dealing with a specialty announces its intention of expounding the relation of that specialty to general medicine and surgery. Thus, the author of the present work informs us that "the zealous purpose of mastering the relationship of proctology to the many diseases commonly treated by the general practitioner" has been his aim during his long and varied practice—and presumably is the objective of his printed message.

That is a laudable object, and, we must confess, well carried out. Doctor Bodkin has given a plain, simple description of the commoner diseases of the rectum, sigmoid flexure, colon, and anus, and has established the frequent association of diseases of the rectum with faulty conditions in other portions of the digestive tract. Treatment is given a large and important place. Best of all, the entire book, from beginning to end, bears the earmarks of having been written out of the author's own personal experience.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Answers to Queries

ANSWER TO QUERY 6031.—"Trachoma." I wish J. M. W. would try, a drop twice daily in each eye, of a solution of zinc chloride in water, in the strength of 1 : 5000. Apply cold water to the lids if the smarting that follows is too disagreeable.

"C."

Brooklyn, N. Y.

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[It is not at all surprising to hear of zinc chloride as an efficacious remedy in this condition. It has always been understood that some form of electropositive metal, deposited in the trachomatous tissues, is the best stimulant to the absorption of the trachoma bodies; and for the past few years there has been a steady tendency toward abandoning all other electropositive metals in favor of zinc. Almost any oculist will tell you that he gets infinitely more definite results from zinc sulphate than he does from the old copper stick or even a copper-sulphate solution. We have never heard of the chloride salt of zinc being thus used, but it strikes us as being a rational and very promising mode, inasmuch as the chlorine ions in the salt ought to exert a decidedly beneficial influence upon the corneal thickening that always occurs in trachoma. We should be glad to hear from others who have had, or who shall have, experience with this remedy in trachoma.]

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ANSWER TO QUERY 6033.—"Deep-Sea Plasma." I cannot see where the treatment with deep-sea plasma has any advantage over the intravenous use of Fowler's solution of the tissue-salts. As for results, I have demonstrated that every condition mentioned under the indications for deep-sea water is as quickly benefited and cured by this solution, and the treatment has very many fewer objections. I have read very carefully the articles by Doctor Arnulphy, of Paris, and Dr. R. H. Stevens, of Detroit, as well as by other writers, and I fail to see any advantage in the plasma over the harmonious solution of tissue-salts. Low vitality, acute infections, neuritis, psoriasis, anemia, asthma, bronchitis, and many other conditions due to infection, defective elimination, and malnutrition, respond beautifully to this treatment.

W. N. F.

Kalamazoo, Mich.

Queries

QUERY 6040.—"Milkers' Cramp." E. W. B., Illinois, asks us what we can tell him about milkers' cramp or milkers' paralysis. He writes:

"I have a patient, a man aged 41, always healthy, who is milking cows—fifteen a day. I think he is getting milkers' cramp, gradually getting worse; his right hand worse than the left. His hands feel numb, pain at times, are worse at night. Would it not be best for him to quit the milking altogether? What is the best treatment? Is this disease common in the dairy districts?"

We regret that the few contributions to medical periodicals of which we know (principally foreign) dealing with the subject of milkers' cramp are not available. In the 18th volume of Ziemmsen's Encyclopedia, A. Brayton Ball, in discussing physical exercise, writes as follows:

"While muscular exercise, so long as it conforms to the law of rhythmic nutrition, increases the bulk and effective power of the muscles, long-continued overexertion, on the other hand, tends to induce a condition of chronic exhaustion and in some instances

even degeneration and atrophy. These results are most frequently seen when the exertion is confined to a comparatively small group of muscles; in more general forms of exercise, prostration usually supervenes before the full extent of the damage is reached. The symptoms of chronic muscular exhaustion are of the same general character as those of acute fatigue; viz., loss of power, pain, cramps, and convulsive movements or spasms. To this special class of paralytic affections, caused by the frequent repetition of particular muscular acts, Hammond has applied the general term 'anapeitatic'; but by most writers the condition in question is variously designated according to the nature of the occupation. Thus, we have scrivener's palsy; telegraphers', typesetters', violinists', pianists', tailors' and milkers' cramp, and so on."

You may know, doctor, that these occupational neuroses are not very amenable to treatment, so that often change of occupation is essential. We should strongly urge this man to stop milking for several months. The hands and arms should be treated by a competent electrotherapeutist (sinusoidal and high-frequency currents prove particularly efficacious), and the arsenates with nuclein may be pushed with advantage. Massage should be advised.

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QUERY 6041.—"Danger From Phenol in Treating Hemorrhoids." H. W. S., Virginia, in referring to the injection-method of treating hemorrhoids, and the technic given in these pages, writes: "You advise injecting 5 to 10 drops of a 50-percent solution of crystal carbolic acid in olive-oil, and to attend to three piles at one sitting. This would mean injecting as much as 15 drops of crystal carbolic acid at one sitting. Is there not danger of phenol poisoning? What eventually becomes of the hemorrhoid so injected? Does it slough or do its contents become absorbed? Are there no contraindications?"

There is little danger: pure carbolic acid, or when it is in oily solution, virtually is harmless. In corroboration of this, we would call your attention to the article entitled "Absurdity of Phenol Poisoning," by Dr. Robert Gray, which appeared on page 172, of the February number of CLINICAL MEDICINE.

This writer years ago pointed out that phenol (from the pure crystals down to any strength below) may be applied locally virtually with impunity, and that dilutions in olive-oil or sterilized cottonseed-oil are equally safe and beneficial. On the other hand, hydroglycerinic dilutions are unscientific and dangerous, and consequently should never be employed in that way.

It must be borne in mind that phenol coagulates blood-serum, so that its action does not extend to the deeper tissues. Prompt coagulation follows the injection of a strong solution of phenol into a hemorrhoid, while, moreover, the coagulum is aseptic, and no inimical germ could enter, much less live therein. Hemorrhoids so injected shrivel away or drop off, with very little sloughing. There are, one may say, no contraindications, except that, as pointed out, one never should inject a "mixed" or an external hemorrhoid. By all means, doctor, read Gray's article, every statement in which this writer heartily endorses.

A solution of carbolic acid and camphor is the best surgical antiseptic this writer knows of. It may be applied freely in clean or infected lesions; moreover, it is an excellent hemostatic. Good combinations are obtained by combining the phenol with menthol, or, also, with camphor and chloral.

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QUERY 6042.—"Sequence of an Electrical Shock." M. M. M., West Virginia, describes the case of a woman, aged 43, weighing 220 pounds; former health fairly good except for some rheumatism, menopause passed. About five years ago, while driving along road during an electrical storm, this woman received a shock in the right hand with which she was holding an umbrella. She is gradually losing use of that hand, and also suffers considerable pain. The doctor wants to know what can be done, beside using electricity, giving strychnine, and bathing the hand alternately in hot and cold water? There is no atrophy of the muscles, which respond fairly well to electricity. All other organs are normal.

Unfortunately, literature on the pathological conditions which may be directly produced by lightning and detected during life is not extensive. However, neuritis unquestionably may be one of the consequences, while any one of the forms of paralysis of the extremities may result. Loss of consciousness occurs to a greater or less extent in all but the very mildest cases, varying through all degrees, from a slight momentary benumbing of the faculties to the most profound stupor. The condition may last a few minutes, hours, or even days.

Pain occurs in nearly all cases, not rarely existing as a direct symptom, in the form of a burning or stinging or constant neuralgia in the limb or limbs affected. Existence of pain in the arms, together with paralysis and anesthesia, lasting three months, has been reported.

Sometimes marked sensitiveness remains for a time in the affected limb, and a certain amount of hyperesthesia always exists in the affected portion immediately after the stroke; more rarely a permanent or lasting sensitiveness to the action of electricity is said to remain. Diminution or even an entire loss of sensation may occur either with or without simultaneous paralysis. Thus, for instance, Balfour reports the case of a boy who said he "could not feel his legs," and another stated that his "arms were cut off." Free reports a case in which there was a loss of sensation in the right upper extremity from the elbow to the fingers and in the left lower extremity from the knee to the toes.

All authorities agree that, as a rule, such loss of sensation is temporary and quickly passes away, but it may last (usually in company with paralysis) for some time. In such cases, organic lesion or traumatic neurosis is to be suspected. The most troublesome sensation experienced is that of numbness, tingling, and formication; also a sense of "pins-and-needles" may occur. As a rule, the deep reflexes remain normal. The superficial reflexes of the parts affected are temporarily increased.

We would suggest that you study carefully the chapters on the treatment of neuritis and neuralgia in "Modern Clinical Medicine: Diseases of the Nervous System." See also volume II of "Medical Jurisprudence, Forensic Medicine, and Toxicology," by Witthous and Becker.

The treatment, to be at all effective, must be based entirely upon a clear conception of individual conditions. Nucleinated phosphates and nuclein, also small doses of arsenic, with the use of the high-frequency current, besides massage of the affected extremity are advised.

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QUERY 6043.—"Syphilis. Fetal Death. Gonorrhea." C. W. H., Oklahoma, asks for help in diagnosing venereal disease, he having found his textbooks unsatisfactory. He says that the enlargement of the epitrochlear gland is given as a sign of syphilis, and he asks how soon after the contraction of the disease this enlargement will take place? Pigment spots at the border of the hair are also mentioned: do these occur before the second stage? What other physical markings, he questions, may be looked for that will give any good suspicious evidence that this disease exists? Further questions are:

"What method is advised to determine whether or not there is a chronic or a latent form of gonorrhea? If the microscope is the only recourse, then where is the best locality from which to collect a specimen? How long would a 7-months fetus have to be dead in the womb before its skin would peel while being delivered? Would an acute stage of gonorrhea cause inflammation of the membranes this late in pregnancy, with a resulting miscarriage? Finally, what books are best for the diagnosing of venereal diseases?"

To begin with the end, the most useful books to consult, when diagnosing syphilis, are: Malsbary's "Diagnosis of Syphilis," Browning and McKenzie's "Recent Methods in the Diagnosis and Treatment of Syphilis," and Fournier's "Classical Treatise," recently published by Rebman. Findley's "Gonorrhea in Woman" certainly should be in your possession. If you like, we can procure any or all these books at publisher's prices: Malsbary's, $5.00; Browning and McKenzie's, $2.50; Findley's, $3.00.

As you will readily understand, doctor, to answer your various questions in detail would call for an immense amount of research-work and writing of an extensive article; in fact, a small volume. You will be able to secure all the data you wish from the books mentioned.

The gross lesions you speak of in the third paragraph of your letter—pigment spots, enlargement of the epitrochlear gland, and so on—cannot be found in the earlier stages. The primary sore must be sought for. If the sore itself has healed, a typical scar can be discovered in most cases. Spirochetes can be found in the primary lesions, and within a very few days the Wassermann test is positive.

Chronic or latent forms of gonorrhea can be definitely determined by the exhibition of a dose of 20,000 to 50,000 gonococci (dead): in other words, gonococcic bacterin. If the disease is present in the individual, the Neisser bacillus can be found in the discharge, which will become profuse.

You are familiar, of course, with the fact that the passage of a steel sound or the application of dilute silver-nitrate solution to the prostatic urethra often will cause the reappearance of gonococci in a supposedly cured patient.

The skin of a dead fetus begins to macerate and peel off two or three days after death. Gonorrhea contracted by the mother in the sixth or seventh month of pregnancy would not affect the membranes, neither would it produce miscarriage. You must remember that an existent *chronic* gonorrhea, with recrudescence late in pregnancy, is an entirely different matter. Such a condition often is mistaken for a primary infection.

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QUERY 6044.—"Tumor of Pregnant Uterus." W. R. M., Indiana, reports the case of a woman pregnant seven months at time described; but now at nearly full term, in fact, expecting to be confined any day.

"One night," writes the Doctor, "I was called to see the lady, the husband stating that his wife was 'suffering some and that something had come down and out and was then outside of the vagina.' On arrival at the house, I was informed that for several days she had 'noticed something just inside the vagina, and that after supper it had slipped out.' Examination showed a hard, tough mass protruding from the vagina, about the size of a goose-egg. The mass was dark-red in color and seemed to be lined or fissured irregularly. I endeavored to make a digital examination, but could not feel the womb, the vagina being entirely empty. I replaced the mass and then proceeded to examine, and found the cervix high up and apparently normal. I found the mass to be attached to the floor of the vaginal wall, immediately in front of rectum, by what appeared to be a broad, flat pedicle.

"I advised her to put on a binder and pad, to support the tumor, and wait developments, rather than to operate at that time. Since then the tumor has not again protruded. I have not made another examination. Am waiting for labor to come on; then, if this tumor is in the way, intend to take steps to remove it. I should like to hear from you about this case."

It would seem that your patient suffers from a fibroma, though it is barely possible that you have to do with a vaginal cyst. Such cysts are not common, although the most frequent form of neoplasms encountered in the vagina. As a rule, they are found either in the anterior or the posterior wall. The majority of cysts occur in the lower portion of the canal.

The vaginal cyst as a rule is round, but may become pear-shaped and have a more or less distinct pedicle. The mucous membrane of the vagina moves freely over the surface of the tumor, unless it is inflamed or else atrophied from distention or pressure. As a rule, the walls of the cyst are thin and the folds and rugæ of the vaginal mucosa not defined. A careful examination should enable you to differentiate readily between a cyst and a fibroma.

A fibroma invariably is single and is of slow growth, requiring years, as a rule, to attain a large size; however, it may increase rapidly during pregnancy. Usually they are round, with a broad sessile base. Sometimes the shape is changed by pressure. These growths cause no inconvenience and mostly are discovered by accident. When the neoplasm is situated on the posterior vaginal wall and protrudes, as in this case, it may cause great annoyance. Especially would such a tumor be likely to interfere with delivery. Fibromas usually are hard, the degree of density depending upon the relative amount of fibrous tissue present.

Carefully bear in mind that inflammation, suppuration, and gangrene may occur and severe hemorrhage follow. During delivery the surface of the tumor may become injured and a hematoma result.

As such tumors never form again after removal, operation distinctly is indicated, and it is a pity that you did not prepare your patient for operation instead of applying a binder to retain the growth in the vaginal canal. You must be prepared to take care of this tumor when the woman is delivered. It may be impossible to deliver the child until the growth is enucleated.

It is hardly likely, of course, that you are dealing with a sarcoma. Primary sarcomata of the vagina are observed very rarely; their usual situation is in the lower portion of the canal. Ulceration generally occurs when the growth attains any great size. The surrounding tissues are infiltrated early. A foul watery discharge almost always is present. As soon as ulceration begins, there is more or less hemorrhage; slight at first, but later becoming marked. Pain is not experienced until ulceration starts. On the whole, though, we believe that you may exclude both cyst and sarcoma, and regard this as a fibroma in the posterior wall of the vagina. We hope to get your report on the outcome of this case.

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QUERY 6045.—"Invagination of the Bowel." G. W. M., Washington, wishes us to point out where he erred in the following case:

"A baby of 18 months became sick on Friday with a slight diarrhea and vomiting,

but her mother thought it due to eating fruit and gave her castor-oil and did not call a physician. The diarrhea and vomiting continued in a mild way till Sunday night, when the diarrhea stopped, while the vomiting continued. On Monday morning the mother noticed that the child's abdomen was bloated and very tender, baby crying when handled. The Doctor, at the time, was away from home and another physician was called, and he diagnosed intestinal obstruction. By this time the vomit was fecal in character. The physician gave some preparation of magnesia and also an enema; also had hot cloths put on the abdomen.

"On Monday forenoon, at 9:30 o'clock, our correspondent came in charge. He found the child's temperature 102.8° F. (rectal); pulse, 150, full and strong; abdomen, much distended and tympanitic; marked tenderness on the right side of the abdomen. She had no bowel movement, but vomited every time anything was given, even water and frequently and freely at other times.

"I directed ice to be applied to the abdomen, and several high enemas of soapsuds and normal salt solution were given during the night. Not getting any results from these, three enemas of milk and molasses were tried. After the third one of these, gas began to pass and the vomiting ceased.

"I put the patient on copper arsenite, 1-1000 grain, and atropine, 1-1000 grain, every half hour for four doses, and then every hour. Also continued the enemas. She continued to improve all day, rested well, had no pain, no fever. She rested splendidly throughout Tuesday night.

"On Wednesday morning I found her temperature 101.6° F.; pulse, 140; bloating much worse; no bowel movements; bowels very tender, but there was no vomiting. I gave another dose of oil and returned to the milk-and-molasses enemas high up. No results. At noon I had her taken to the hospital at Spokane, where she was seen by Drs. H. E. Wheeler and G. A. Downs. We decided that there was nothing to do but to make an exploratory incision.

"As soon as the child's peritoneum was opened, quantities of the vilest-smelling pus I ever saw poured out of the incision. The pulse was failing; so, we hastily put in drainage and closed the wound, and put the patient to bed. We injected 8 ounces of normal salt solution subcutaneously. We also administered strychnine, 1-150 grain, hypodermically, every three hours. At first she began to rally from the operation, but died about 6 a. m. Thursday. The autopsy revealed an invagination of the small bowel, about 7 inches long, and a general septic peritonitis; no sloughing or perforation of the bowel.

"Now, did I wait too long through carelessness or not? Would I have been justified in advising surgery on Tuesday, when she was passing plenty of gas and the bowels were moving freely, the color of the stool being yellow and without bad odor, and there was no mucus or blood, nor vomiting, with temperature and pulse normal? Tell me where I erred, if I did err?"

Perhaps we can best answer your question, "Tell me where I erred, if I did err?" by pointing out that the termination of the case proves conclusively that a mistake was made. It would not be fair, however, to say that operation would have saved the child's life, for the shock in such cases usually is profound; but surgical interference, when fecal vomiting set in, offered the child one chance of life. This writer always has understood it to be a fixed rule: Operate in all cases of intestinal obstruction the moment fecal vomiting begins. Of course, you were justified in feeling hopeful when high enemata proved effective, feces were voided and vomiting ceased.

We probably should, at this time, have considered elevating the body of the patient, have withheld food, and purgatives of all kind, and in this way tried to prevent reinvagination of the bowel. It would have been better, undoubtedly, to have had the child removed to the hospital and preparations made; for, operation on Monday, and certainly on Wednesday morning, when the temperature again rose and bloating occurred, opening of the abdomen was imperatively demanded.

As you are aware, obstructions of the intestine generally are associated with acute peritoneal inflammation; and noninvolvement of the peritoneum, as a matter of fact, may be taken as a distinct indication of chronic obstruction. It should not be difficult to diagnose intussusception in children; it is, however, frequently impossible to decide just what portion of the bowel is involved.

In the ileocolic form, the ileum prolapses through the ileocecal valve; in the ileocecal, the ileum and the ileocecal valve prolapse into the cecum and colon; in the ileal, the ileum alone is involved; and in the colic, the colon.

The intussuscipiens drags its mesentery into the intussusceptum, and the symptoms vary according to the tightness of the invagination and constriction of the vessels. If the pressure is great or long continued, necrosis

and hemorrhage occur. The prognosis in acute cases always is very grave. Perforation or peritonitis must always be anticipated. Spontaneous recovery has occurred through automatic processes, but there is even then grave danger of intestinal stricture and permanent obstruction.

The much-talked-of sausage-shaped tumor cannot always be felt, and, in fact, seldom is felt; but, given, in young children, abdominal pain, vomiting, bloody stools or none at all, it is safe to diagnose intussusception.

However, the treatment nearly always is operative, and, as pointed out, it is now accepted as the rule that the moment fecal vomiting occurs the abdomen should be opened. If a diagnosis can be made, the sooner operation is done, the better chance there is for the child.

Palliative measures consist in the injection of water high into the bowel, a very low pressure being used. The reservoir in such cases should never be more than three feet above the buttocks, which should always be elevated above the shoulders. This measure must be applied early (within twelve hours); and even then used with caution. A very low head of water has caused perforation. The giving of purgatives is a grave mistake.

To sum up. The sooner diagnosis is made, the better for the patient. Early, we may try to reduce the invagination by means of warm saline enemas, used as directed; but, if the condition has existed for twelve hours and fecal vomiting is present, operation is imperatively demanded. Early intervention has proved successful in a large proportion of cases.

Under the circumstances, doctor, we feel that we must express the opinion that you erred in attempting to reduce the condition by means of milk and molasses enemata. The child should have been operated upon, on Tuesday morning at least.

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QUERY 6046.—"Multiple Skin Tumors." W. M. F., Alabama, writes: "I have a case under observation in which I should like your advice. The man is 65 years old and has been in bad health for many years; the result, I think, of malaria and bronchitis. This, however, is not troubling him much at the present time.

"What I wish your advice for is, he has growths or tumors nearly all over him, but mostly on the arms. They vary from the size of a pea to the size of hen's eggs. They seem to resemble wens somewhat, except that they seem to adhere to the skin. They do not seem to be sore, except a large one, which is on one of the buttocks, and this is in the way when he is sitting down or lying on that side."

It is impossible for us to outline effective treatment for your patient without a clear idea of the underlying conditions. Make a very thorough physical examination, then report your findings. Your patient may suffer from mycosis fungoides. The first stage shows itself as an erythematous or eczematous lesion; later, more or less infiltration occurs; finally, tumors varying in size from a pea to an orange, with a disposition to become superficially ulcerated, may be observed. It is a very rare affection, and incurable. Can syphilis be positively excluded?

Dermoid myomata occasionally are observed after middle life, the growth beginning as an ecchymosis. The lesions generally appear as pale rose-colored, rounded or oval papules, which later develop into tumors, usually pink or reddish colored, and elastic to the touch. The sides of the face and the arms are the usual sites. They generally increase in size and number, though at times spontaneous involution takes place. Treatment consists in their removal by excision.

Molluscum fibromata are connective-tissue newgrowths appearing as sessile or pedunculated, pea- to egg-sized, soft or firm, rounded or flattened, painless tumors seated just beneath or in the skin. Hundreds of such growths may appear upon the body of a single individual; the upper part of the back, chest, abdomen, and arms being favorable sites.

Hard fibromata (desmoid) rarely become larger than a pea, and usually occur singly or as several scattered solid growths covered by normal skin. They are sharply defined, round or oval, smooth and compact, and movable. They appear insidiously and grow slowly. Surgical measures alone are of service.

It might be well for you to excise, under local anesthesia, one of the smaller tumors and submit to a pathologist for examination.